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The OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCTION, REFINING AND PIPE LINE DIVISIONS

THE WEEK'S NEWS INTERPRETED

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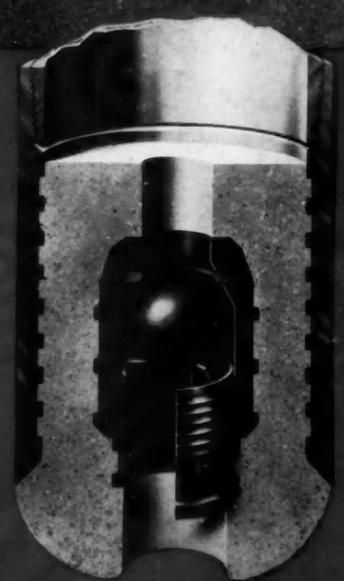

-3-

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. . . but above all the internal construction must be of materials which are quickly and easily drilled up and circulated out of the hole.—Only Baker CEMENT Equipment meets this demand with minimum amount of bakelite anchored on end in "Baker-Formula" Concrete. All internal materials are easily, rapidly drilled up, with minimum vibration on new cement. The small particles circulate out of the hole with rotary mud, leaving the bottom free from dangerous metal or other fragments which prevent coring and tend to start off-vertical holes.

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MAY 23 1934

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Pump electrically with the RIGHT MOTOR and the RIGHT CONTROL

ELECTRIC power is cheap and it's readily available. And General Electric stands ready to help solve your particular well-pumping drive problems with the RIGHT MOTOR and the RIGHT CONTROL—a combination that's hard to beat in economy and dependability.

For example, if you want a drive that will take care of your present as well as your future pumping needs, the RIGHT motor is the G-E triple-rated motor with three different horsepower ratings. It costs little more than a single-rated motor.

For stripper wells, the RIGHT drive is the G-E gear-motor —a compact, efficient, low-speed drive which provides new economies in slow-motion pumping.

If your pumper is located where there's inflammable gas, the G-E explosion-proof motor, which bears the label of the Underwriters' Laboratories, is the RIGHT drive.

Where there's splashing or dripping water, the RIGHT drive is the G-E splashproof motor, which has a water-tight conduit box and sealed cartridge-type ball bearings.

For outdoor installations, where motors are operated under bad weather conditions, the RIGHT drive is the G-E totally enclosed motor.

All of these motors, too, may be obtained in triple horsepower ratings.

Before you install any pumping equipment, you'll find it profitable to talk over your plans with a G-E oil-field specialist. A card or 'phone call to the nearest G-E office will bring you his services. Ask, also, for complete information on each of the above motors. General Electric, Schenectady, N. Y.

G-E induction motor operating a pumping rig through a V-belt drive and reduction gear

G-E explosion-proof motor for Class I, Group D hazardous gas locations

G-E waterproof combination magnetic switch—a line switch and a magnetic starter all under one cover

G-E explosion-proof, oil-immersed magnetic starter

020-39

GENERAL ELECTRIC

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GASO Walking Beam, Rodline and Piston Power PUMPS

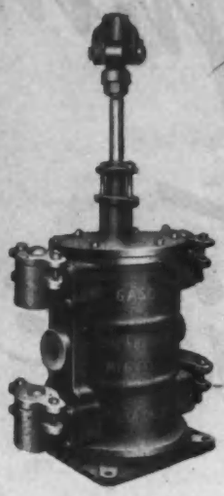

Fig 604 Gaso Pump for Gas or Vacuum.

Fig. 601 Gaso Pump for Oil or Water

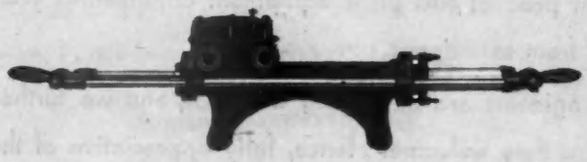

Fig. 201 Gaso Rodline Pump

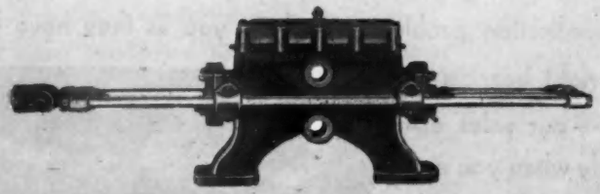

Fig. 301 Jerker Pattern Gaso Pump

Years of Use on Leases and Pipelines the World Over Have Proved their Reliability and Economy

• • •

FIG. 201 RODLINE PUMP is a simple, easily operated and repaired pump for general service. Used in connection with the rod or shackle line between the power and the well, or connected to the power direct with a pitman.

FIG. 604 WALKING BEAM PUMP for Gas or Vacuum is connected to the walking beam with either pipe or wood pitman. Or Fig. 604½ (horizontal type) is connected to the power or surface rods. Built to stand hard usage. Give 26 to 28 points vacuum.

FIG. 601 WALKING BEAM PUMP for Oil or Water is especially adapted for use on leases where no pumping power is available. Remarkably durable. Designed for 400 and 600-pound working pressures.

FIG. 301 PISTON POWER PUMP (JERKER PATTERN) is widely used on high pressure main pipelines and is equally suitable for low pressure work, wherever a push and pull or crank power can be utilized. 750 to 300 pounds working pressure.

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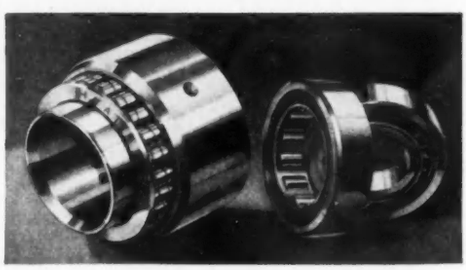

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APR 18 1934

THE OIL WEEKLY

VOLUME 73, No. 5
APRIL 16, 1934

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Published Weekly by
THE GULF PUBLISHING COMPANY
HOUSTON, TEXAS

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Associate Editor

CONTENTS

Special Features

The Week's Picture in Oil 9
By Jack Logan

Recovery Review Board Completes Investigation of Code Complaints 10

Ickes Order Designed to Check Movement of Oil in Tankers .. 10

Recovery Review Board to Suspend Hearings; May Be Dissolved 12

Wage Differential Rejected by Labor Representative; Threatens Oil Strike 14

California Test Reaming to Bottom of Record Depth Hole 16

Increased Demand for Oils Revealed in Bureau Report 18

Latest in Equipment and Methods to Be Seen at Houston Show. 21

Tulsa Exposition Will Have Much of Interest 131

Engineering Problems and Code of A. P. I. Program 140

Regular Departments

Advertisers' Index 186

The Changing Panorama 7

Men in the Industry's News 138

Markets-Production-Crude Prices 133

United States Production Estimates 133

Crude Oil Price Quotations 137

California Fields 172

Oklahoma Fields 148

Kansas Fields 151

East Texas 152

North and West Texas 155

South Texas 157

Gulf Coast Fields 162

Louisiana Fields 172

Arkansas Fields 174

Southeastern States 174

Rocky Mountain States 175

Michigan Fields 169

Eastern Fields 192

Squeaks from the Bull Wheel 193

SPECIALIZED OIL JOURNALS

Published by

THE GULF PUBLISHING COMPANY

R. L. DUDLEY, *President*

A. L. BURNS, *Gen'l Manager*

S. W. ROBINSON, *Editorial Director*

J. KENT RIDLEY, *Managing Editor*

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CHICAGO: Room 1235, 141 W. Jackson Blvd., Tom W. Nelson, Manager.

LOS ANGELES: 416 Haas Building, W. E. Green, Manager.

TULSA: 1020-23 Hunt Building, J. F. Carter, Jr., Manager.

FORT WORTH: 203 W. T. Waggoner Building, H. H. King, Manager.

Issued Monday of each week. Single copies 15 cents. Subscription price: Domestic $1.00 a year, Foreign $1.00 a year. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil business or the manufacture and distribution of oil field supplies. Advertising rates on application.

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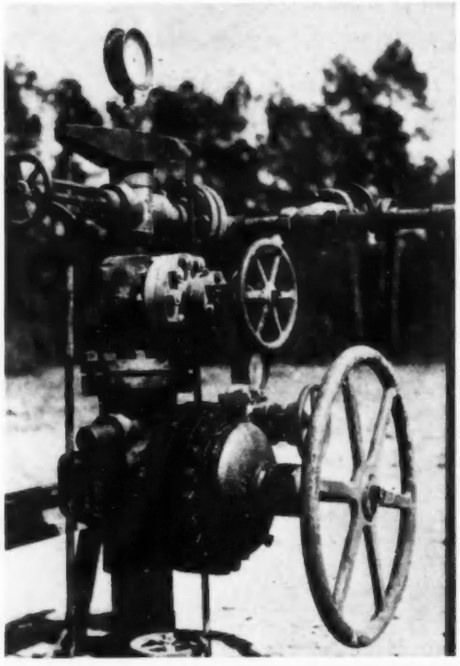

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Volume 73, No. 5

APRIL 16, 1934

THE OIL WEEKLY

FOR OIL AND GAS PRODUCTION AND
PIPE LINE DIVISIONS

ENGINEERING • NEWS • STATISTICS

The Changing Panorama

Monday, March 16, marks the opening of the Oil Equipment & Engineering Exposition in Houston. This exposition gives every evidence of being a highly creditable one. While it will not compare in size with the International Petroleum Exposition at Tulsa, which opens May 12, it will be an exposition certainly well worth attending, and evidences are that it will be well attended.

The exhibits this year are far more numerous and better arranged than was the case last year (all display space being sold sometime ago.) Many exhibitors have gone to a great deal of expense to make their exhibits timely.

Every oil man ought to do his best to attend one or the other of these expositions or both.

Charges were brought at Washington during the week that operation under the code has not increased employment nor increased remuneration of workers in the oil industry. Other ideas are that the only result of the code has been to increase labor costs without adding revenue to cover the increases in wages. Other sectors report that the entire scheme of recovery as directed from Washington has failed. Somewhere in this conglomeration of ideas occurs a serious conflict.

Good service would be rendered oil and other indus-

Extensions of Cayuga production in East Texas will be measured "as the crow flies" rather than by the road. At the end of this "corduroy" are the boilers for Tide Water-Seaboard's Willis 1, which was completed last week to extend production a mile and a quarter.

tries, and the public at large, if some disinterested agency could compile comprehensive data on employment and wages. Department of Labor statistics on the number of people who have been put back to work during the last six months apparently make no impression on some people. Mounting consumption of gasoline and other products, as reviewed from time to time through official figures of the Department of Commerce, should be of some benefit as an indication that the opportunity for employment in the oil industry has been broadened. The fact that the industry's operations are continuous and that men employed in the several branches have their appointed extra days off periodically should indicate that more men are employed.

But in the absence of an adding-machine list on personnel and payroll figures all this is speculation. It leaves opportunity for recurring criticisms which echo unfavorably in quarters where there is not realization that the critics generally are of the "anti" element.

And speaking of the "anti" element, this industry seems to have more than its share, in that in addition to those, who for political or associated reasons, are hopeful that the scheme of recovery will fail, we have division of the "independent" and (so dubbed by the former) "monopolists," with a radical element of "independents" who would much prefer that the whole scheme of things should go to ruin than that the "monopolists" should prosper. With them are grouped the chronic offenders against orderly operation and price schedules and, as lieutenants, certain propagandists and others who occupy the outer fringe. Just at this time when the industry is in a lifeboat enroute from the sinking ship toward what appears to be solid ground, it would appear a matter of discretion that the fight might wait, and the boat not be rocked by the combatants. Certain stalwarts in the ranks of the "independents", who have seen the logic of discontinuing internal strife until the industry's battle has been won, are rewarded by being called traitors by their former associates; but they must get some personal satisfaction from their efforts in behalf of the whole industry, just as the big majority of the industry appreciates what they have done.

The Oil Man's Calendar

APRIL

16-21 *Oil Equipment & Engineering Exposition, Houston, Texas.*

19-20 *National Petroleum Association, Cleveland, Ohio.*

20-21 *A.P.I. Division of Production, Southwestern District, Fort Worth, Texas.*

MAY

3-5 *American Chemical Society (Regional), Kansas City, Missouri.*

9-11 *Natural Gas Association of America, Tulsa, Oklahoma.*

12-19 *International Petroleum Exposition, Tulsa, Oklahoma.*

14-17 *Petroleum Division, American Society of Mechanical Engineers, Annual Meeting, Tulsa, Oklahoma.*

16 *Mid-Continent Oil & Gas Association (Annual), Tulsa, Oklahoma.*

21-22 *National Oil Scouts Association, Lake Charles, Louisiana.*

22-24 *American Petroleum Institute, Mid-Year Meeting, Pittsburgh, Pennsylvania.*

JUNE

14-15 *Pennsylvania Grade Crude Oil Association, State College, Pennsylvania.*

25-29 *American Society of Mechanical Engineers, Denver, Colorado.*

SEPTEMBER

10-14 *American Chemical Society, Cleveland, Ohio.*

19-21 *National Petroleum Association, Atlantic City, New Jersey.*

NOVEMBER

12-15 *American Petroleum Institute, Dallas, Texas.*

Super-Deep Drilling

Establishment of another world's depth record in California calls to mind how rapidly the practice of drilling to below 10,000 feet is becoming quite common. The first time that depth was ever reached was in June, 1931. Since that time five additional wells have exceeded its footage of 10,026 feet, and numerous others have drilled to within a very short distance of the five digit figure. Today, there are more wells drilling below 8000 and 9000 feet than at any other single period in the history of the petroleum industry.

History repeats itself and before long at the present rate it is likely that 10,000-foot wells will not be considered exceptionally deep. Within a few years it may be necessary to originate new depth classifications, perhaps adding to the present existing list the expression "super-deep" tests and wells.

The Bureau of Mines' February report on petroleum furnished further encouraging statistics, including evidence of continued high demand for gasoline and most of the other products put out by the industry.

Fairly effective control of crude production during the month was reflected in a material reduction of crude stocks; although the declining stocks were accounted for partially by more or less excessive refinery operations, which led to a sharp rise in gasoline stocks. Page 18.

The Week's Picture in Oil

As the industry still debates gasoline market stabilization, prospects for new federal oil control legislation loom larger. But proposed bill has encountered much opposition even before revelation of details of its provisions, and current improved gasoline market works against it.

By JACK LOGAN

"Under all his stories there ebbs and flows a kind of tempered melancholy, a sense of seeking and not finding . . . " In these words Wilson Follett has described the conception of human activities and endeavors that Joseph Conrad enunciated in his great stories of the sea.

The same "sense of seeking and not finding" has seemed to characterize stabilization and related efforts in the petroleum industry during the several years they have been in progress, and it has persisted to now, even though the industry has been reinforced by federal and state governments in its oil control endeavors.

It is true federal supervision through the NRA petroleum code, state regulations, and cooperative efforts in the industry have brought fairly satisfactory crude prices and more or less profitable company operations during the past half-year. But those combined forces have not solved with finality the problem of controlling crude production, and have hardly made a start toward achieving stabilization of refining and marketing operations and resultant satisfactory refined product prices.

The "sense of seeking and not finding" was discernible beneath the developments of the past week even though the period was one of some important gains and improvements—gains in effectiveness of crude production regulation and improvements in prices of refined products. For in the meantime long-sustained efforts to work out a satisfactory control program for refining and marketing under the oil code continued at Washington without reaching any positive stage; and larger loomed the prospect that the federal government, by insisting upon new and more drastic federal oil laws, might step in and attempt to furnish the stabilization the industry has been unable to achieve.

Another Refinery Control Plan

When the petroleum administrative board met at Washington April 11 to hold a hearing on the plan it had suggested for stabilizing refinery operations and balancing gasoline supply with demand, a new surprise plan, advocated by 24 major companies, was presented. It was the fourth to be offered on the subject. Thus for the past half-month there has been a new plan a week. And now it appears that if refinery control under the oil code is to become a reality there must be at least another plan, a combination of already suggested plans into a final agreement. The prospects for a final agreement are of course not particularly bright, considering discord and delays that have thus far characterized the efforts to stabilize refining and marketing.

The new major company plan for refinery control has a joker in it to which the Planning and Coordination Committee objects and which may likewise be counted upon to arouse the protests of independent companies. It proposes that the Planning and Coordination Committee be enlarged by 11 members, seven of whom must be satisfactory to the companies proposing the plan.

Of the three previously suggested plans one, offered by the Planning and Coordination Committee of the code and supported by numerous independent refiners, provided for allocation of gasoline production quotas to refineries; one was advocated by a group of major companies, providing for voluntary control by gasoline production, under which they would attempt to restrict output to market demand; while the third plan was offered by the petroleum administrative board, representing a compromise between the first two plans, and being in the form of an amendment to the refinery section of the oil code to permit stricter regulation of gasoline stocks and of gasoline production at refineries. Under the latter plan regulation would be in the hands of agencies controlled by the industry but subject to government supervision, and the proposed gasoline purchase or pooling agreement would be made a part of the oil code.

New Oil Law in Prospect

While the industry quibbles over how to stabilize refining and marketing and how to solve its self-inflicted difficulty of excessive gasoline stocks, the federal government deliberates on whether or not to take the knotty problems graciously off the industry's mind by attempting to do the stabilizing itself under a new federal law that would dispense altogether with the NRA petroleum code and self-regulation of the industry and substitute straight, permanent federal government regulation of all branches, based on control of interstate shipment rather than intrastate production as under the year-to-live NRA program.

Return of President Roosevelt from his Florida fishing trip the latter part of the week brought Oil Administrator Ickes'

(*Continued on page 143*)

Recovery Review Board *Completes Investigation of* Code Complaints

Washington, D. C.—Completing the taking of direct testimony on complaints against the oil code, the National Recovery Review Board on April 9 turned its witnesses over to Louis Titus, counsel for the Planning and Coordination Committee, for cross-examination during the most colorful session the board has yet held.

Taking as his text the charges of monopoly fired at the major companies by the two main witnesses, Titus questioned them closely in an effort to bring out who and what constituted the alleged monopoly. While the cross-examination of Walter G. Williams of Fort Worth was comparatively colorless, the questioning of J. Edward Jones of New York developed many arguments during which the witness cross-examined both the counsel and the board and at one time became more than slightly heated when Jones' characterization of Wirt Franklin's oil association as a monopoly-subsidized group and Franklin therefore an agent of monopoly moved the latter to call the witness "an unmitigated liar."

Submitting a list of contributions to the Independent Petroleum Association, Williams testified to several independent operators, hotel companies and tailors who had contributed small sums and then read the large contributions of major companies including $2000 from The Atlantic Refining Company, $5000 from Consolidated Oil Corporation, $10,000 from The Texas Corporation, $3000 from Standard Oil Company of Ohio and $5000 from Standard Oil Company of California.

Declaring in answer to Titus' questions that there is a tacit understanding between the big companies on questions of policy, the witness declared "there has been an almost continuous monopoly of the oil industry." As long as the large independents abide by the rules of the so-called monopoly they can get along, but not otherwise, he said.

Williams criticised the code for its failure to include transportation among the groups which are prohibited from making "disproportionate" profits, declaring that branch had been able to show continuously profits ranging from 19 to 1000 percent.

Amplifying his previous testimony, he charged that larger majors put the price of crude up, while lowering the price of gasoline at the refinery and increasing it to the consumer, in the effort to avoid application of the 18-to-1 price ration provided in the code originally.

Complaining frequently of his inability to get the witness to answer questions without "making speeches," Titus in his cross-examination of Jones attempted to get definite information as to who and what constituted the monopoly in oil of which the latter bitterly complained.

Before the counsel for the Planning and Coordination Committee had an opportunity to ask his first question, Jones read prepared figures showing the margin between allowable production and total demand since the beginning of the code period, his figures showing an average difference of 468,000 barrels a day for the six-months ended with February, which he declared was made up by imports and withdrawals from storage at the expense of the independent producer.

Asked whether he was in favor of the elimination of all restrictions, he told the board he was advocating that production be limited to total demand, with a prohibition upon imports and withdrawals. The major companies, he asserted, import some 87 percent of the total receipts of foreign oil and own more than 92 percent of the storage supplies. However, he admitted, under the code, imports now are averaging only about 127,000 barrels a day, the smallest since 1918 and contrasting with an average of 298,000 barrels in 1931, but attributed much of this decline to the tariff now imposed.

Pressed by Titus to show wherein a monopoly existed in the oil industry,

Ickes Order *Designed to Check Movement of* Oil in Tankers

Washington, D. C.—Regulations designed to increase the government's control of the oil situation and requiring reports from ships moving oil or its products from Texas and California ports to other domestic points were announced by Oil Administrator Harold L. Ickes April 9.

The regulations are based on Section 9 (c) of the industrial recovery act, authorizing the federal government to prohibit the shipment in interstate commerce of oil produced in excess of state allowables, it was explained by Mr. Ickes.

"There have been numerous reports that producers and refiners of oil in Texas and California have been shipping large quantities into other markets, threatening to disrupt the program for stabilization," he said. "The requiring of reports will show where the oil is from, to whom it is going and the quantity being moved."

The new order will be known as Regulation XIV, and provides that:

"The master of every vessel taking on petroleum or petroleum products at any port in the states of Texas and California for carriage in whole or part to any other port of the United States shall, upon clearance from such port of the states of Texas and California, send by registered mail to the Division of Investigations of the Department of the Interior at its office in Tyler, Texas, a report in triplicate containing the following information, and shall thereafter, upon clearance from any port of the United States at which such petroleum or petroleum products or any part thereof is discharged, send by registered mail to the Division of Investigations of the Department of the Interior at its office in Washington, D. C., a similar report in triplicate, also containing the following information:

"1. Name of vessel.

"2. Name of owner of vessel.

"3. Name of master.

"4. Port from which report is being made and date of such report.

"5. Number of barrels of petroleum and of each product of petroleum taken on at this port as cargo, and the destination of such cargo.

"6. Number of barrels of petroleum and of each product of petroleum discharged at this port.

"7. Number of barrels of petroleum and of each product of petroleum, other than that taken on at this port, now held aboard as cargo; the destination of such cargo, and (if it was not taken on at any port of the state of Texas) the port of origin of such cargo."

Relaxation of code provisions requiring bids on oil at posted prices also has been announced by the administrator with respect to fuel oil for naval vessels now returning to the Atlantic for summer fleet maneuvers.

The order was recommended by the Petroleum Administrative Board, which advised the administrator that virtually the entire supply of oil of the quality required, aggregating some 1,300,000 barrels, was sold to the Navy and any posted price of oil of this quality would be a fictitious price, since there is no other market for it. Further, it was said, to require a posted price would unsettle the Navy's budget without effectuating the purposes of the oil code.

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THE GREATEST CHAIN THAT EVER HIT THE OIL FIELDS

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THE UNIT LINK WORKS BOTH WAYS

These precise parts of the Unit Link of Rex Deepwell Chabelco are assembled to provide proper heavy press fits, but with complete and easy flex of the carefully finished, ground working surfaces.

SIDEBARS—are die cut, securing the distribution of metal that gives the greatest strength for the least weight in a chain operating at high speeds.

PINS—a new alloy steel develops greater strength where the greatest strain centers and proper hardness that resists wear.

BUSHINGS—like the pins, are ground and made of better alloy steel, have greater strength and proper hardness.

ROLLERS—the rollers roll more smoothly into the sprockets. The tubular design and better steel provide the strength, hardness and toughness to stand sprocket impacts and sudden clutching loads.

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Rex Deepwell Chabelco stays together on the rig but can be easily taken apart in the field. The grooved, solid cotter and pins are readily driven out and both can be used over again.

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Jones repeatedly refused to name the companies which constituted the monopoly, declaring that "the administration of this code fosters monopolistic practices and thereby fosters and creates monopoly."

After considerable argument as to the propriety of the document, he read from a copy of a speech made last May by Attorney General James V. Allred of Texas attacking a telegram sent to the President by a group of independent associations which Allred declared for the most part had but a few hundred members, while the largest, with some 6500 members or more, counted therein some 2200 employes of Humble Oil & Refining Company and the employes of certain other major companies.

Taken finally by Titus over the membership of the Planning and Coordination Committee, Jones gave the affiliations of the several members which in most instances were companies included in the major group or which, he said, "went along" with the majors, and which, he charged, are the companies which are influencing the committee "to sponsor a policy which will foster their own business" and eliminate the independents.

It was when he reached Wirt Franklin's name that the outburst came from the former chairman of the Planning and Coordination Committee.

At the conclusion of the day's session, Lowell Mason, counsel for the board, announced that the consumers' advisory committee of the National Recovery Administration had completed a detailed statement on inequities in the oil code and had filed it with the Petroleum Advisory Board, asking that a copy be requested of the board for inclusion in the records.

Members of the Planning and Coordination Committee began presentation of their defense of the code Wednesday before the review board, in the face of Chairman Darrow's disinclination to hear them, evidenced several times during the proceedings by the attempts to cut testimony short.

Insistent remonstrance from other members of the board was necessary before the chairman would permit Wirt Franklin of Ardmore, Oklahoma, to explain the position maintained by the Independent Petroleum Association of America, of which he is president and which was charged by J. Edward Jones of New York to be "subsidized" by the major companies.

Franklin was frequently interrupted by Darrow, who entered into lengthy arguments with him regarding the increase in tariff which the witness said the independents are fighting for to secure a competitive parity with foreign oil and on the contributions of major companies to the association to further the program which all interests had agreed upon following the governors' oil conference called by the Secretary of the Interior in March, 1933.

With respect to the contributions, Darrow sought to develop that their source had been hidden and the $35,000 involved used by the organization as funds emanating from independent sources, which Franklin denied.

After Franklin had been testifying but a few minutes, Darrow broke into the questions being propounded by Louis Titus, counsel for the committee, to say "I don't think we ought to listen all day to an oration."

"You have listened for three days to a man who is not in the oil business," Titus retorted, referring to Jones. "I implore you to listen to a man who is trying to give the facts."

"I think he ought to be allowed to talk long enough to answer Mr. Jones," the chairman was told by John F. Sinclair, a member of the board.

"Do you mean four days?" Darrow asked.

"I mean five days, if it is necessary," Sinclair declared.

"Well, we won't," Darrow said.

Declaring he was anxious to answer "calumny, slander and libellous statements" of witnesses complaining of the code, Franklin recited the fight waged by the independents for an oil tariff and later for the elimination of unfair practices in the industry and the restriction of imports.

Explaining how the Planning and Coordination Committee had been appointed by the president from nominations made by the various groups, the witness declared that "neither end of the industry is satisfied with the committee which does not suit the 'hot' oil producers at one end or the major producers at the other."

In fact, he added, the majors were in Washington this week to ask the Petroleum Administrative Board to increase the committee to 23, with the majors to name seven of the 11 additional members.

Although Franklin received remunera-

Recovery Review *Board to Suspend Hearings;* May Be Dissolved

Washington, D. C.—Dissolution of the present National Recovery Review Board before it ever makes any report to the President on its investigation of the oil code is seen probable in Washington.

Operations of the board are expected to be suspended after this week until President Roosevelt can decide whether to create a permanent organization, adequately staffed, to hear and act upon complaints against codes.

Although the board is now in the middle of important hearings and has others scheduled for the remainder of the month, President Roosevelt will be told upon his return to Washington this week that the members of the board do not feel qualified to make specific recommendations with respect to revision of the more than 20 codes before them in the absence of technical advice from men well versed in the practices of the several industries.

The board has concluded hearings on several codes, including the oil code, and certain members are of the opinion that reports should be written, setting forth the deficiencies in each agreement. Others, however, take the attitude that the material laid before them by witnesses appearing at the hearings is not adequate for recommendations of such importance.

It was indicated that Chairman Clarence W. Darrow will confer with the President upon the latter's return and lay the situation before him, together with a report outlining what the board has done and pointing out that the hearings have indicated the existence of much dissatisfaction with many codes and the need for an organization to hear and act upon criticisms.

The proposed report is expected to recommend the establishment of a permanent organization, with a staff of economists familiar with the details of the various industries. The board would use the statistical and other material of the National Recovery Administration and other Federal agencies, and would sit continuously, with such machinery as would enable quick action where needed.

Need for a permanent organization to pass on complaints is seen by members of the board, who stated that while they had no opinions on the specific issues that have been raised, the testimony at the hearings indicated clearly that in many industries control is almost entirely in the hands of representatives of the largest units. This, they were careful to explain, did not signify that the interests of the smaller members were ignored but did tend to show that those smaller member had little or nothing to say as to the manner in which they were governed.

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tion at the rate of $25,000 a year while he served as chairman of the committee, the present incumbent, Judge Amos L. Beaty, is serving without pay, the board was told. Russell B. Brown, secretary, receives $15,000 a year, but no member of the Planning and Coordination Committee receives any remuneration for his services.

Declaring that the whole recovery movement is on the verge of a breakdown, board member, Fred P. Mann closely questioned E. B. Reeser, president of the Barnsdall Corporation and a member of the committee, regarding the accomplishments of the oil code.

Reeser admitted that the code has not eliminated price cutting, but explained this was due to continued "hot" oil production in Texas, which last week averaged 135,000 barrels a day, according to official figures of the railroad commission.

"Then the code has practically failed," Mann declared.

"In respect to that it has," Reeser replied.

"Is there anything left in it?" the witness was asked.

"Practically not much except wage and hour provisions. It has failed in the fundamental of getting remunerative prices, although it has been effective with respect to imports and withdrawals from storage and in many other respects."

"Was not it the aim of the NRA to get remunerative prices, so that industries could employ more labor and pay workers more?" Mann asked.

"We thought it was," Reeser replied.

"I want to get this into the record," Mann declared. "It is very important. I am positive we are right on the verge of a collapse of the whole NRA system when we get this great industry which is here today to acknowledge they have failed to bring about the things codes were formed for."

East Texas "hot" oil production last week, the witness explained, was much higher than usual and far in excess of the 50,000 barrels a day which had been estimated.

Members of the Planning and Coordination Committee, regardless of their business affiliations, are working harmoniously for the betterment of the industry and enforcement of the code, it was declared by Bernard L. Majewski, receiver for Deep Rock Oil Company and one of the independent members of the committee.

Majewski denied that price fixing by agreement prevailed in the industry, pointing to the chaotic situation which for several years has existed in Chicago, Minneapolis and other cities, where as many as a dozen prices may be quoted by as many companies.

The other side of the oil code picture was brought before the board April 10 with the appearance of Judge Amos L. Beaty, chairman of the Planning and Coordination Committee.

Declaring that the complaints against imports lose their weight when the export situation is considered, Judge Beaty explained that an immediate result of the imposition of a tariff on imported crude in July, 1932, was a decline in both imports and exports, which came from the diversion to South America of much of the tonnage theretofore exported from the United States.

"If exports had been reduced to the level of imports, there might be something in the argument that imports should be restricted so that foreign oil would not come here and compete with domestic oil," he said, "but the argument loses its force when exports are two or three times the imports."

The chairman of the Planning and Coordination Committee began the presentation of his views following the conclusion of cross-examination of J. Edward Jones, which wound up with a colloquy between the witness and John F. Sinclair, a member of the board.

"You think Mr. Ickes is a man not competent to pass the final veto on these matters?" Mr. Sinclair asked.

"With due regard for his integrity and intelligence," the witness replied, "I do not believe his experience is sufficient to enable him to pass on the matter."

"You would have no restriction of any kind?" the board member continued.

"During the emergency I would give American industry free hand to handle all the volume of business the American industry is entitled to."

"The Ickes program, as I understand it, is a conservation program. You take no stock in that whatever?"

"None whatever."

"You believe there is an unlimited amount of oil left in the fields of the country?"

"Yes."

"And any restriction program is a program merely to get a monopoly control?"

"That is right."

Discussion of the committee set-up by Judge Beaty disclosed that none of the three Government members of the group are now attending hearings. Donald R. Richberg, general counsel of the National Recovery Administration, attended only the organization meeting; the other two members were more or less constant attenders of the early meetings, but gradually discon-

Wage Differential *Rejected by Labor Representative; Threatens* Oil Strike

Washington, D. C., April 13.—Rejecting the schedule of wage differentials proposed by the Planning and Coordination Committee, representatives of the International Association of Oil Field, Gas Well and Refinery Workers of American today threatened to tie the industry up by a strike of 100,000 if the schedule is adopted.

Appearing before the Petroleum Labor Board, which began its hearings yesterday on the wage differentials that are to be applied by the industry as of September 2, last, when the code became effective, Harvey C. Freming, president of the union, declared the proposed rates are less than are being paid by representative operators at the present time, and demanded a return to 1929 salaries and a 30-hour week.

"General demoralization" of the industry since adoption of the code was charged by the oil workers, who declared that employment has been steadily declining since last October. Although representatives of some of the operators declared the proposed schedule of differentials was fair, the labor representatives were preparing to demand increases in the rates ranging from five to 60 cents an hour. Their proposals, Freming said, would add only $350,000,000 to the industry's wage bill.

Freming declared that the threatened strike to be called if the schedule is adopted without change would be for the purpose of forcing "an equitable schedule of wages for oil workers as contemplated under the NRA."

A voluntary control plan sponsored by 24 companies was submitted by Axtell J. Byles, who explained that the group was anxious of cooperating with the government but pointed out that control "would be of no value, or at most of very little value, in the absence of effective control of crude oil production." If control of production were secured, he added, refinery control would probably become unnecessary.

Development of a final control plan was placed in the hands of a committee.

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Perforates the casing by gun fire

No more need operators wonder just how much perforating has been done. Under this system, the operator knows that when the cartridges have been fired, clean cut holes have been made through the casing.

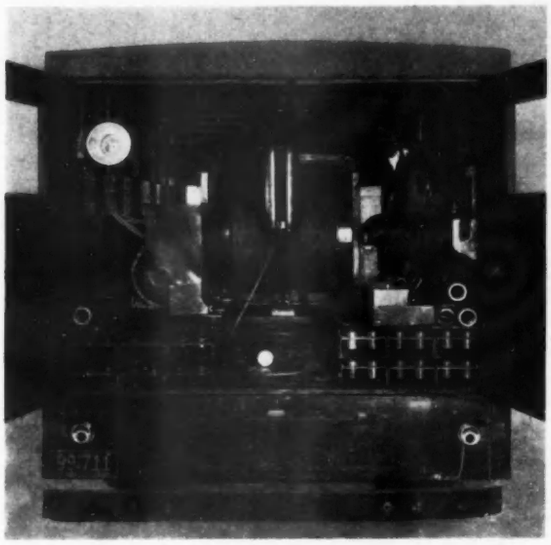
SURE TO GET HOLES THROUGH

The sureness and power back of this method of perforating is proven by samples showing perfect, clean holes through three strings of cemented casing from one firing.

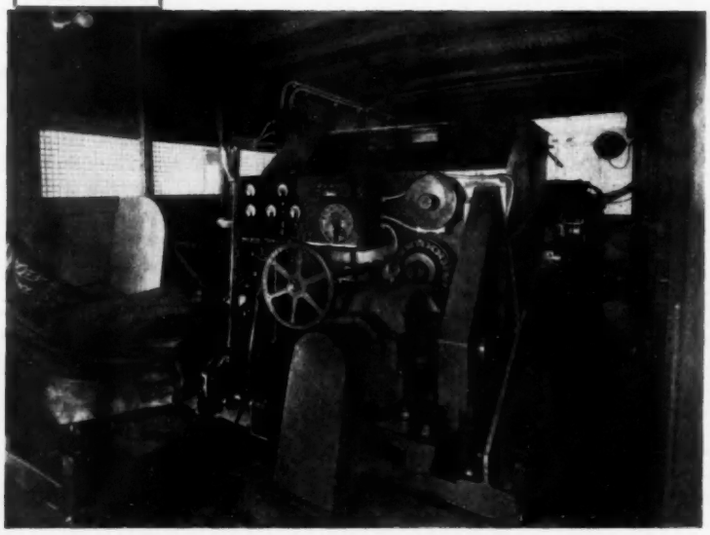
Positively does not distort diameter of pipe.

CUTS CLEAN ROUND HOLES THROUGH CEMENT: Operators have long been looking for a method of perforating the cement so that cement particles would not fall back and close up the hole. The perfect, clean-round holes of the gun fire system completely solves the problem.

BULLETS OPEN UP THE FORMATION AROUND THE CASING: The bullet continues to bore on after going through the casing thus perforating the crystallized formation about the casing; letting the gas through and opening it up.



SEE AT OIL SHOW



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Oil, water, or drilling mud do not affect the efficiency of this magnetic fishing tool.

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tinued their participation. Only two members of the entire committee have been constantly in Washington—Wirt Franklin and Judge Beaty.

"We have worked on various problems of the industry," the witness said, "and I can truthfully say that this committee has been four-square on standing for that which protects the small operator."

The hearings were completed Thursday with the examination of Judge Amos L. Beaty, who outlined the Planning and Coordination Committee's recommendations for the minimum price schedule, which elicited strong opposition from a number of major companies and the development of the pooling and marketing agreements now pending. These agreements have not been put into effect, he explained, because a number of California companies would not sign unless the Cartel arranged in that state was made effective. Application of the Cartel being dependent upon the disposition of the indictments recently returned against a number of companies and individuals in California, he said, there is no telling what the ultimate fate of the agreements may be.

In the case of Phillips Petroleum Company, he told the board, a loss of $5,250,000 was experienced during the first half of last year, but that loss was more than made up during the last half of the year, due to anticipation of the code and its actual operation after it became effective last September.

While the code has failed to bring about establishment of a proper price structure, it has accomplished much in other respects, he continued, saying, "I still have hopes that the industry as a whole will derive benefit."

Judge Beaty was exhaustively questioned by Lowell Mason, counsel for the board, in an apparent effort to connect the American Petroleum Institute, of which the former was at one time president, and the Planning and Coordination Committee.

Mason also dwelt at length upon storage stocks, following the line of J. Edward Jones in attacking withdrawals, leading Mr. Sinclair to develop the basic idea of the oil administration's withdrawal program.

"If a program of withdrawals from storage which would greatly reduce that storage would have a tendency to increase the price of crude oil, what would be the effect of finally eliminating this storage?" he asked.

"The underlying principle is that because beginning with 1927 the industry piled up very large crude stocks in storage and these have been overhanging the market, a reduction of those stocks is desirable from an economic standpoint, for the protection of the small producer as well as for other producers," the witness replied. "They should not be exhausted entirely, but reduced to an economic working basis, but it is not practicable to do that while a large amount of current production is pressing for market."

"With exports of two and one half times the imports, continued withdrawals would have the effect of greatly reducing the overhanging surplus and in turn would mean that the independents would finally get a higher price?" Sinclair asked.

"Yes," Judge Beaty replied.

Attempts of the witness to explain the function of the Planning and Coordination Committee elicited from Chairman Darrow another attack upon "Big Company" control of the industry.

"All these people who control the industry are big operators," the chairman asserted.

"They do not control the oil business or the administration; far from it," Beaty protested.

"This business is placed in the hands of the President and these men represent the President; every one of them is a big operator," Darrow insisted.

"The board is appointed to regulate as well as they can practices within the industry," Sinclair explained, "and merely refer their recommendations to the Petroleum Administrative Board."

"This board was appointed by the President to represent him and control the industry," Darrow maintained.

Called to explain the telegram which was the basis of the Texas Attorney General's attack on the Texas Oil and Gas Conservation Association, E. H. Edelman, former executive manager of the organization, told the board that it had never been represented as an "independent" association but sought members and funds from all sources, major and independent, and that its inclusion as an independent association in the telegram was through error.

California Test *Reaming to Bottom of* Record Depth Hole

Los Angeles.—Another world record depth for an oil well was set April 8, when General Petroleum Corporation's Berry 1 at Belridge reached 10,960 feet, 16 feet deeper than North Kettleman Oil & Gas Company's Lillis-Welch 1, near Kettleman Hills, which twisted off the drill pipe at 10,944 feet. Union Oil Company is now going into this hole to complete the latter test. Late in the week the well was reaming with 10,960 feet still the bottom. A production test will be made.

Detailed information on the drilling of the world record hole as to drilling technique and engineering data is being withheld from publication until the well is either abandoned or placed on production. It is understood it will be drilled deeper, as it is showing both oil and gas through 112 pound mud.

The well was spudded September 19, 1930, and was drilled ahead until March, 1932, when it was suspended until August 2, 1933. Electric power has been used from the start.

The casing record includes 728 feet of 20 inch, 4534 feet of 13⅜ inch, 7745 feet of 8⅝ inch and 9717 feet of 6⅝ inch. They are now drilling a 5¾-inch hole.

Officials of the company say they are drilling for oil and are not and were not working for a depth record. The fact they set a world depth record was only incident to their ultimate object.

It is likely the well will be completed in the next week or two unless trouble develops.

"Watchman" Orders to Be Applied to All Texas Pools

Austin, Tex.—Officials of the Texas Railroad Commission, assisted by attorneys, have turned their attention to the preparation of the "watchman" order for all Texas oil fields. This is the order designed to enable the commission to determine the exact production each day of every oil well producing in Texas.

On April 3 orders were issued for this purpose governing operations in the Conroe and East Texas fields. These orders superseded the general

On April 3 orders weer issued for terms of another order issued on April 3, the orders requiring reports from other sections of the State were repealed.

A study is being made of operating conditions in the various districts with the view to promulgation of orders readily applicable.

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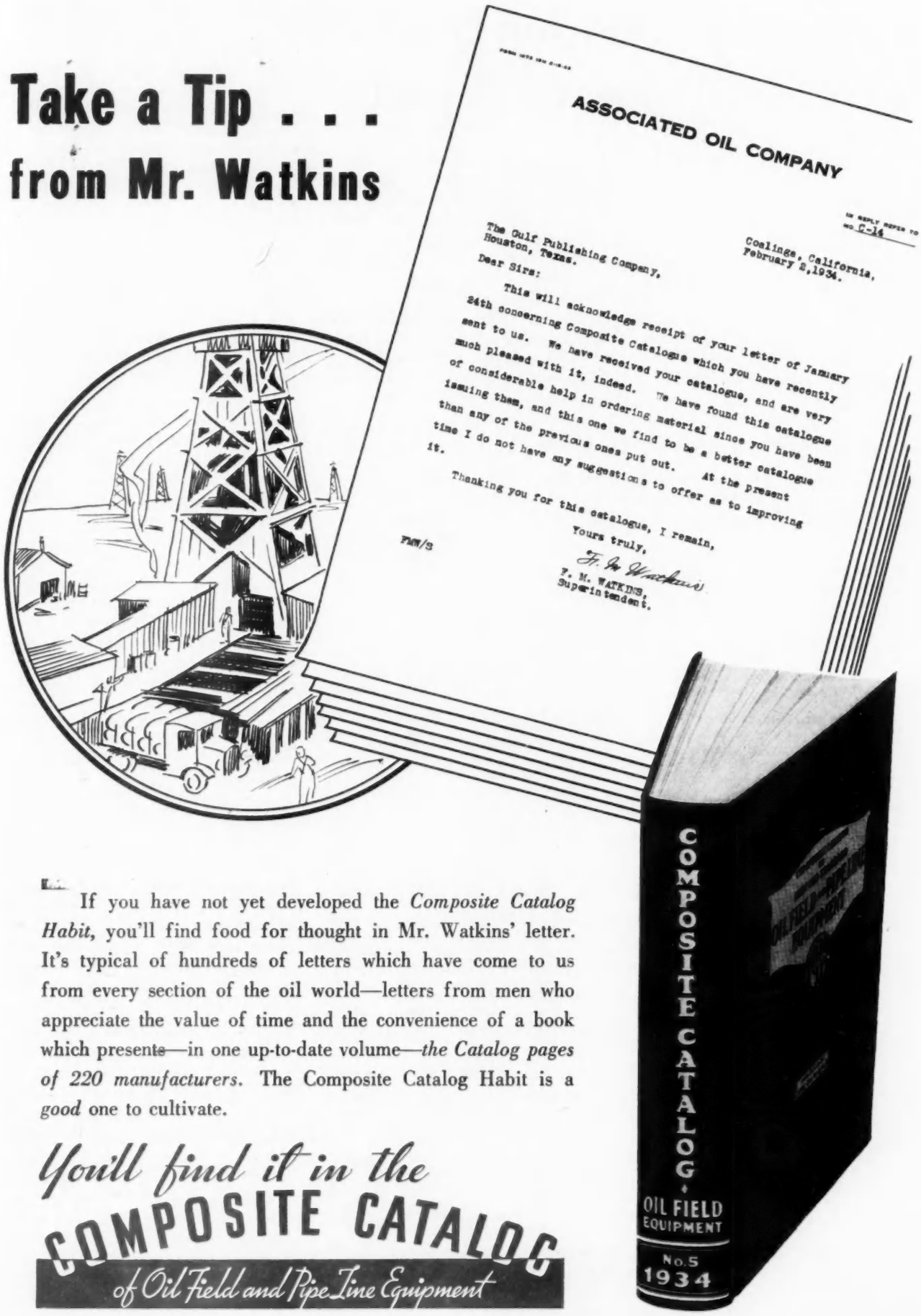

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NO. C-14

Coalinga, California,
February 2,1934.

The Gulf Publishing Company,
Houston, Texas.

Dear Sirs:

This will acknowledge receipt of your letter of January 24th concerning Composite Catalogue which you have recently sent to us. We have received your catalogue, and are very much pleased with it, indeed. We have found this catalogue of considerable help in ordering material since you have been issuing them, and this one we find to be a better catalogue than any of the previous ones put out. At the present time I do not have any suggestions to offer as to improving it.

Thanking you for this catalogue, I remain,

Yours truly,

FMW/S

F. M. WATKINS,
Superintendent.

If you have not yet developed the *Composite Catalog Habit,* you'll find food for thought in Mr. Watkins' letter. It's typical of hundreds of letters which have come to us from every section of the oil world—letters from men who appreciate the value of time and the convenience of a book which presents—in one up-to-date volume—*the Catalog pages of 220 manufacturers.* The Composite Catalog Habit is a *good* one to cultivate.

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Increase Demand for Oils Revealed in Bureau Report

CONTINUED higher demand for motor fuel and most other products as compared with a year ago featured the latest report of the Bureau of Mines on petroleum, covering February. Reduction of stocks of crude oil and of refined products other than manufactured gasoline during the month was another favorable factor in the report, although a material increase of gasoline stocks was a counteracting unfavorable influence.

The daily average indicated domestic demand for gasoline during February was 891,000 barrels, an increase of 7 percent over a year ago. Stocks of gasoline on February 28 totaled 60,438,000 barrels, of which 56,653,000 barrels was finished gasoline and 3,785,000 barrels was natural gasoline. These data indicate an increase in finished gasoline stocks of nearly 4,000,000 barrels during February.

The percentage yield of gasoline in February, 42.5 percent, was practically the same as in January, hence the increase in daily average crude runs was directly reflected in a gain in daily average motor fuel production. Exports of gasoline increased in February, averaging 72,000 barrels daily, compared with an average of 63,000 barrels in January.

February statistics of the minor products indicated continued high consumption of kerosene and gas oil and fuel oil.

Price Down from January

The price index for petroleum products during February, 1934, as taken from Bureau of Labor Statistics, was 50.3 compared with 51.1 in January and 34.3 in February, 1933.

The refinery data of the report were compiled from refineries with aggregate daily recorded crude oil capacity of 3,456,000 barrels. Those plants operated during February at 69 percent of their capacity, given above, which compares with a ratio of 66 percent in January.

Crude oil production in the United States during February, 1934, totaled 65,450,000 barrels, according to the report; representing a daily average output of 2,338,000 barrels, which, compared with the average in January, represents an increase of 17,000 barrels; and compared with production a year ago, represents a gain of 7 percent.

Increased production in Texas was responsible for the gain in national output. The daily average production in Oklahoma, California, and the majority of the less important producing states, in fact, declined. The Texas daily average production for February was 987,000 barrels, compared with 957,000 barrels daily in January. The increase of 30,000 barrels was attributable to a gain of 20,000 and 10,000 barrels in East Texas and the Panhandle, respectively.

Crude Stocks

Total stocks of refinable crude on February 28 totaled 351,641,000 barrels, indicating a net withdrawal of 2,001,000 barrels during February. Stocks on the leases increased approximately 300,000 barrels in February, but refinery and tank farm stocks decreased.

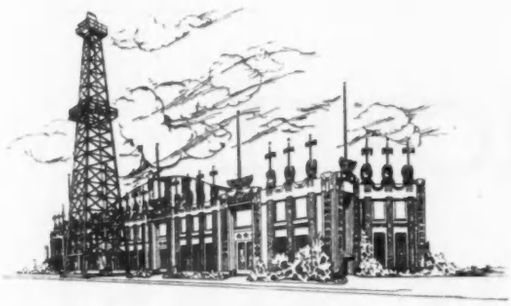
Total crude runs in February amounted to 66,470,000 barrels, or 2,374,000 barrels daily. This was 67,000 barrels higher than the January average and 194,000 barrels, or 9 percent, higher than the average a year ago.

SUPPLY AND DEMAND OF ALL OILS

From Bureau of Mines February Report on Petroleum
(Thousands of barrels of 42 gallons)

	Feb. 1934	Jan. 1934	Feb. 1933	Jan.-Feb. 1934	Jan.-Feb. 1933
New Supply:					
Domestic production:					
Crude petroleum	65,450	71,976	61,029	137,426	125,027
Daily average	2,338	2,321	2,180	2,329	2,119
Natural gasoline	2,783	3,024	2,543	5,807	5,419
Benzol[1]	132	130	88	262	183
Total production	68,365	75,130	63,660	143,495	130,629
Daily average	2,442	2,424	2,274	2,432	2,214
Imports:					
Crude petroleum	[2]3,031	[2]2,800	2,369	5,831	5,200
Refined products	278	1,244	1,615	1,522	2,790
Total new supply, all oils	71,674	79,174	67,644	150,848	138,619
Daily average	2,560	2,554	2,416	2,557	2,349
Decrease in stocks, all oils	3,957	4,357	[3]1,097	8,314	3,127
Demand:					
Total demand	75,631	83,531	66,547	159,162	141,746
Daily average	2,701	2,695	2,377	2,698	2,402
Exports:					
Crude petroleum	2,511	2,288	1,886	4,799	3,823
Refined products	5,597	5,362	4,480	10,959	10,796
Domestic Demand:					
Motor fuel	24,947	29,519	23,312	54,466	49,822
Kerosene	4,154	4,245	3,274	8,399	6,930
Gas oil and fuel oil	29,450	[4]32,482	27,156	61,932	55,670
Lubricants	1,128	1,359	1,101	2,487	1,960
Wax	83	89	87	172	166
Coke	806	1,056	786	1,862	1,657
Asphalt	358	386	344	744	849
Road oil	151	181	79	332	177
Still gas (production)	3,050	3,457	2,914	6,507	6,138
Miscellaneous	161	47	126	208	235
Losses and crude used as fuel	3,235	[4]3,060	1,002	6,295	3,523
Total domestic demand	67,523	75,881	60,181	143,404	127,127
Daily average	2,412	2,448	2,149	2,431	2,155
Stocks:					
Crude petroleum	351,641	353,642	335,060	351,641	335,060
Natural gasoline	3,785	3,906	3,397	3,785	3,397
Refined products	240,450	242,285	246,525	240,450	246,525
Total, all oils	595,876	599,833	584,982	595,876	584,982
Days' supply	221	223	246	221	244

[1]From Coal Division. [2]Receipts of foreign crude as reported to Bureau of Mines. [3]Increase. [4]Revised.



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Shaffer Tool Works
Brea, Calif.

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Owner, Nowery J. Smith Co.
Houston, Texas

J. B. STEELE
Purchasing Agent Wes-Len Petroleum Corporation
Houston, Texas

G. SCHLICHT, *Pet. Eng.*
Deutsche Petroleum Aktien Gesellschaft
Berlin, Germany

NIC STEFANESCU,
Chief Engineer, I. R. D. P. Co.
Mislea, Gara Baicoi, Roumania

CHASE E. SUTTON,
Div. Mgr. Pure Oil Co.
Houston, Texas

W. C. THOMAS,
Gulf Coast Supt. Magnolia Pet. Co.
Lake Charles, La.

E. T. THOMPSON
Norvell-Wilder Supply Co.
Beaumont, Texas

W. E. TRAUTWEIN
Sec.-Treas. Albert Plummer Drilling Co., Inc.
Houston, Texas

DR. W. V. VIETTI,
Pet. Eng. Texas Company
Houston, Texas

T. E. WARD,
Pres. & Gen. Mgr. Oilfield Equipment Co., Inc.
New York, N. Y.

JOHN A. WORTHINGTON
Asst. to Pres. American Hammered Piston Ring Co.
Baltimore, Md.

A Complete 100% Success!

An Appeciation to the Exhibitors . . .

- We, the Oil Equipment and Engineering Exposition Management; We the Honorary Board of Directors;
- We wish to take this opportunity to thank you, the concerns who are exhibiting with us. You, Exhibitors, are responsible for the success of this exposition. Without your vision, without your cooperation, it would have been utterly impossible to have this exposition.
- You, Exhibitors will be well and generously repaid for all your efforts and expense because every possible effort has been made on the part of the exposition management to bring you success and business.
- We have furnished 300,000 free admission tickets to every oil man on our list, throughout the world.
- We furnish free outdoor exhibit space to our exhibitors. Our booth costs and all expenses are reduced to the lowest.
- Hotel rates in Houston during the exposition are not increased as is customary.
- Over 57% of all drilling wells in the U. S. are located in Texas, whose oil men are attending the Oil Show in Houston.
- Over 40% of all refineries are located in Texas.
- Every booth in the entire exposition building has been sold, for a number of days before the exposition.
- Every leading Oil Company in the Gulf Coast, East Texas, West Texas, Panhandle, New Mexico, Louisiana, is sending their engineers, superintendents, foremen and personnel to the Oil Exposition in Houston. Oil men from California, Oklahoma, Kansas and Eastern States are arriving. Oil men and purchasers from all parts of the world are arriving.
- The World's newest equipment developments are on exhibit, here in Houston.

OIL EQUIPMENT & ENGINEERING EXPOSITION

APRIL 16-21, 1934

HOUSTON, TEXAS

START PLANNING *Now*

for the

1935 OIL EXPOSITION

IN

HOUSTON, APRIL 9-14

NICKEL ALLOY STEEL

DOES ITS BIT

...in Guiberson Drilling Equipment

The cutting discs and axles of this Drilling Bit are drop forged from Nickel Molybdenum (S.A.E. 4615) Steel of the following analysis:

Carbon	0.10-0.20
Manganese	0.30-0.60
Phosphorus	0.04-Max.
Sulphur	0.05-Max.
Molybdenum	0.20-0.30
Nickel	1.50-2.00

Manufactured by the
GUIBERSON CORP., Dallas, Texas

NO group of manufacturers is more thorough in its search for the strongest and toughest metals than the makers of oil well drilling equipment, for the success or failure of an otherwise well-designed product hinges upon its ability to withstand repeated shock, stress and abrasion.

The Guiberson Corporation of Dallas, Texas, one of the largest manufacturers of oil well tools and equipment in the Southwest, has never spared effort nor expense to secure the best materials that the market affords.

And after the most exacting factory and field service tests, they find that highly stressed parts perform more dependably when made of Nickel Alloy Steels.

The Guiberson Disc Bit pictured here is equipped with cutters and axles forged from Nickel Molybdenum Steel (S.A.E. 4615), case hardened to a case depth of about .087", with a Scleroscope hardness of 70 to 80.

These cutters are subjected to severe shock and abrasion, and the Nickel Alloy Steel helps to maintain their sharp cutting edges.

Not only in drilling equipment but in scores of heavy duty applications in the oil industry, Nickel Alloy Steels are making machinery vastly more dependable because of their high resistance to breakage and wear.

We shall be glad to send you the latest data on the most effective applications of Nickel Alloy Steels. And, when you are planning new equipment, our engineers will gladly extend their help.

THE INTERNATIONAL NICKEL COMPANY, INC.

Miners, refiners and rollers of Nickel.
Sole producers of Monel Metal.

67 WALL STREET, NEW YORK, N. Y.

Latest in Equipment and Methods To Be Seen at Houston Show

Houston.—With all plans completed and all available space filled, the Oil Equipment and Engineering Exposition opens its doors on April 16. This oil show will be held in Convention Hall, from April 16 to 21, inclusive, and from advice received from E. G. Lenzner, general manager, will be the most successful in its history. All branches of the petroleum industry will be covered, equipment and methods will be shown for drilling, production, refining, pipe lines, gas plants, other transportation operations and for marketing refined products.

The foreign attendance at the Houston oil show has been greatly enhanced by a joint resolution passed by Congress, authorizing the President to invite foreign countries to participate in the exposition. This resolution also provides that articles may be imported from foreign countries for the purpose of exhibition at the show without payment of duty. Lenzner has been advised that the foreign attendance will be considerably greater than at previous shows and the many foreign countries are contemplating extensive purchases of equipment.

Among many special features will be a section devoted to the showing of new inventions. These inventions and patents will be of equipment that has never been manufactured for sale and will be shown without charge to the inventors. They will enable the oil men to see the trend in equipment design and will give the manufacturers of equipment the chance to take on new products to add to their line. This section is under the supervision of Lester B. Clark, patent attorney of Houston, whose experience well fits him for the handling of such a display.

Daily demonstration work will be performed on the space adjoining the exhibition building and will consist of the application of tools and machinery to meet field conditions and of many special features. Oil companies and several other organizations will cooperate in giving the demonstrations, which will be educational as well as interesting.

First aid contests will be put on every afternoon and teams from various oil companies will compete. Other safety work will show the adaptation of safety equipment to field and plant operations and will portray the most modern methods that have been developed to insure safety in all brances of the oil industry. Fire fighting apparatus and methods of different kinds will be demonstrated daily and will include means of handling gas blowouts and the controlling of gas fires.

Combining educational and entertainment features, there will be shown 14 reels of motion pictures that are being furnished by the Pittsburgh office of the United States Bureau of Mines. These will cover all phases of the petroleum industry and are released under the following titles: "The Story of a Rotary Drilled Oil Well," (two reels); "Through the Oil Lands of Europe and Africa," (seven reels); "The Story of a Mexican Oil Gusher," (two reels); and "Through the Oil Fields of Mexico," (three reels).

Besides the field trips planned to enable visitors to inspect equipment as being used in the surrounding fields, several other trips of interest have been scheduled. Among these is one arranged by the Houston Port Commissioners whereby visitors at the exposition will be taken by the commission's launch "R. J. Cummins," for a tour of inspection of the waterfront and the port facilities.

All visitors at the Houston oil show will be registered and a complete list of all who are connected with the oil industry will be compiled with company connections and address for use of the exhibitors. The Oil Equipment and Engineering Exposition is a technical show and is held for the petroleum industry alone. Every effort is therefore being made to confine the attendance to those who are connected with the various branches of the industry but to make attendance both easy and beneficial.

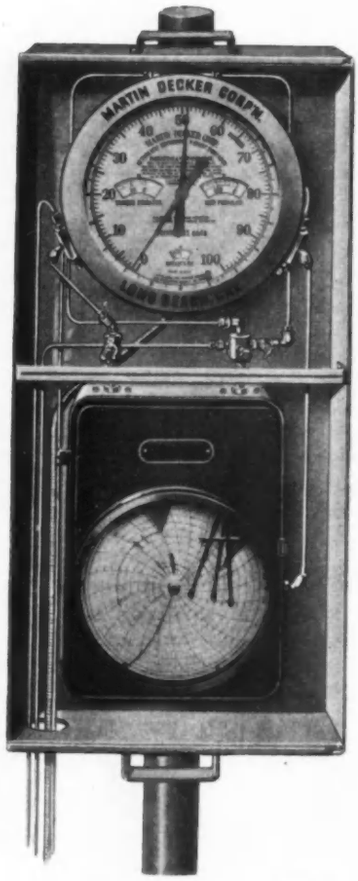
Houston Convention Hall, scene of Oil Equipment and Engineering Exposition

EQUIPMENT AT HOUSTON SHOW

On the following pages will be found illustrated descriptions of new and modern oil field and pipe line equipment on display at the Oil Equipment and Engineering Exposition in Houston, April 16-21. The information has been made available through the co-operation of manufacturers who have been requested to give full particulars of their equipment to be displayed. These pages will serve as a handy reference work for those who will want to refer to information on equipment seen at the Houston exposition.

Martin-Decker Corp.

Martin - Decker Corporation, Long Beach, California, has a most complete line of its products exhibited at the Oil Equipment and Engineering Exposition.



Quintuplex Drilling Control Gauge Board

▪ *Quintuplex Drilling Control Unit*

The Quintuplex drilling control is a full range instrument that covers every phase of the drilling operation, on the shallowest or the deepest wells. Weight on bottom, load on derrick, slush pump pressure, torque in the drill pipe and rotary table speeds are all shown at a glance on one 12-inch dial. All elements are standard, one in no way interfering with or depending on the functioning of the others.

The complete new Martin-Decker Quintuplex drilling control unit consists of the following combination of indicating and recording instruments, mounted in two cases:

(A) One full range, temperature corrected weight indicator with diaphragm unit, regular and super-sensitive combination gauge, "outside-in," extra large recorder, mounted in the combination recorder case, pump, copper tubing and extra fittings. It is a complete weight indicating and recording unit.

(B) One mud pump gauge that consists of an indicating gauge mounted in the Quintuplex case, a pulsation damper, diaphragm unit, extra, high-pressure fittings and copper tubing. The recorder element is mounted in the combination recorder case.

(C) A torque gauge. The indicating gauge is mounted in the Quintuplex case, diaphragm unit for installation in system, necessary valves, fittings and copper tubing. The recorder element is mounted in the combination recorder case.

(D) Rotary table tachometer with draw works take-off mechanism, belt, 15-foot flexible shaft and necessary fittings with gear ratio adjuster. Tachometer is mounted in Quintuplex case.

The Quintuplex recorder is a combination instrument, combining temperature corrected element for weight recording, mud pressure recording and torque recording.

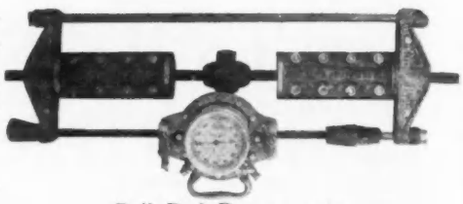
▪ *Automatic Recording Mud Scales*

Automatic Recording Mud Scales

The Martin-Decker automatic recording mud scale continuously indicates and records the weight of the mud. It consists of a torpedo-shaped metal weight of a definite volume that is suspended from a special scales and submerged any place in the mud system where there is agitation. No piping, guides or special installation is necessary. The dial is calibrated so that the weight of the mud is indicated directly in pounds per cubic foot, specific gravity and pounds per gallon. The only attention necessary after installation is the winding of the clock once each day and the changing of the chart.

▪ *Pull Rod Dynamometer*

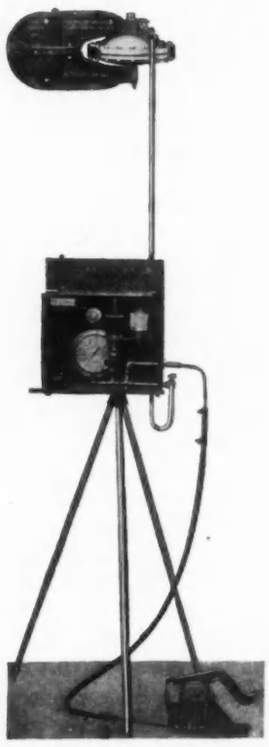
The Martin-Decker pull rod dynamometer yoke and clamp arrangement provide a method for attaching the regular Martin-Decker tension indicator for the purpose of indicating the loads on the jointed line of pull rods on central pumping powers for the purpose of properly balancing the power. Where cable jacklines are used instead of jointed rods, the tension indicator can be placed directly on the cable for load readings without the use of the yoke and clamp. The tension indicator may also be used for other work on any lease, such as measuring the tension in derrick guy lines, stack guys, etc.



Pull Rod Dynamometer

▪ *Pump Dynamometer*

The Martin-Decker pump dynamometer is used for measuring accurately and keeping a permanent record of polish rod loads on pumping wells. From the cards, or records obtained, pumping troubles may be isolated easily because the load at every point of the stroke is known. It consists of a special dynamometer pres-



Martin-Decker Pump Dynamometer

sure transformer that is quickly and easily mounted on the polish rod. The polish rod load is supported by two levers held apart by a diaphragm unit filled with fluid. The rod load generates fluid pressure within the diaphragm, which is transferred through a flexible tube to a special indicating and recording unit by which means a card record of the load variations at every cycle of the stroke is procured.

▪ *Pulsation Dampener*

Pulsation Dampener

The pulsation dampener made by Martin-Decker is for use on all types of pressure gauges for pumps, compressors and pipe lines, and on pressure controllers, U-tubes, draft gauges and other instruments operating under pulsating pressure. It is adjustable to dampen completely any degree of pulsation in either liquids or gases, yet any actual change in pressure is instantly shown.

▪ *Temperature Bomb*

Temperature Bomb

The Martin-Decker temperature bomb consists of a solid body of metal of high heat conductivity, holding eight threaded plugs, each containing a piece of metal alloy that will melt at definite temperatures. The bomb is lowered into the well on a sand line, sucker rods, or tubing, dropped in the drill pipe or any other method desired, and lowered to any desired depth and upon withdrawal the metals that have melted give accurately the maximum temperature at that point in the well. Inexpensive renewal plugs are supplied for any temperature desired above maximum weather conditions.

Regan Forge & Engineering Company

Among the exhibits are the various products manufactured by Regan Forge & Engineering Company of San Pedro, California. This exhibit includes a type A crown block, a type B traveling block, various control head hook-ups and other drilling equipment.

▪ *Crown Block*

Regan Crown Block

The Regan crown block being exhibited is a duplicate of that used on the world's deepest producing well, Denver Producing & Refining Company's No. 1 Adah-Noe, Binger, Oklahoma.

▪ *Casing Control Head*

The company is displaying a new slip suspension high-pressure casing control head. This head embodies several new features in control equipment.

▪ *Traveling Block*

Regan Traveling Block

This traveling block is a 76-inch, roller-bearing unit, known as type B. It has been used in oil fields throughout the world.

▪ *Tubing Head*

The equipment on exhibit also includes a new type Regan tubing head and oil saver that will permit either removing, raising and lowering or running in tubing under pressure in flowing wells.

Authorized Appleman Bit Service Company

▪ *Retractable Core Barrel*

Authorized Appleman Bit Service Company, Houston, is exhibiting the new Hunt retractable core barrel that recently brought to the field a departure from previous design core device. The core cutter is welded into the bit as an integral part of the bit, and the barrel seats in the bit, rather than going through it, and latches

Hunt Retractable Core Barrel

near the top of the drill collar under a sleeve. The barrel has nothing to do with the cutting and therefore does not necessarily have to be thick walled, thus allowing more inside diameter for larger cores. The barrel merely receives the core, and is withdrawn through the drill stem by an overshot on a wire line.

The core cutter is a short toothed pilot running about two inches ahead of the blades. Each cutter tooth is set with a hard insert to minimize wear. On each side of the cutter is a V-shaped window to permit cuttings being washed out in the circulation when a core is not being taken. When the barrel is dropped in for a core and seats in the bit, these windows are closed by the barrel, throwing full circulation through the water courses.

. . . see and study

P.I.W. on PARADE

See the New PIW Pumping Unit (shown below) in operation in our Outside Exhibit. Study the correct design, the rugged welded steel construction . . . watch the ease of operation . . . see how the Horsehead is readily rotated clear of well . . . note how the entire unit and moving parts are self-contained . . . and, don't forget to ask a PIW representative at the Exposition for the new 4-page folder fully describing and illustrating this Pumping Unit of tomorrow, available for your lease today.

The New P. I. W.
Samson Post

See the New PIW Samson Post displayed in our outside exhibit . . .

It is designed to withstand the impact shocks and overloads encountered in heavy wells.

The New P. I. W.
Pumping Unit

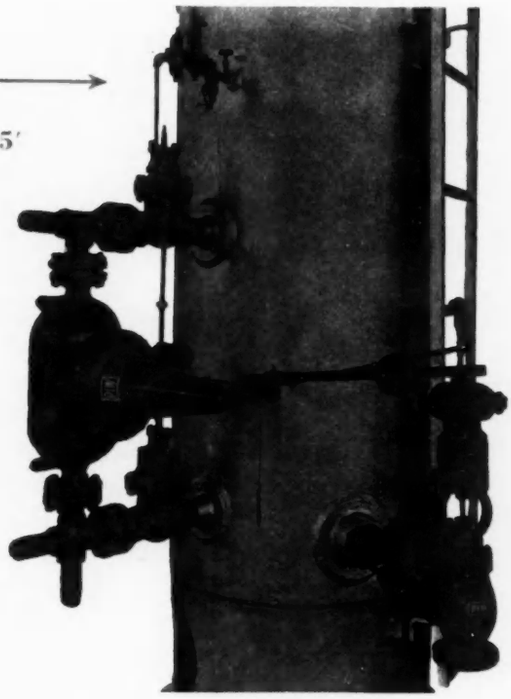
See in our inside exhibit this New PIW Pumping Unit in minature, rigged up and pumping oil into a model PIW Storage Tank.

at the OIL SHOW

in Houston April 16-21

You'll see in our Outside Exhibit the New WASHINGTON Separator, in various sizes and pressures . . . the Separator which brought to the field modern scrubbing processes, available otherwise only in advanced refinery separation. You may compare here the last word in oil and gas separation with antiquated methods (the best in their day) for PIW built the first oil and gas separator, the Old Washington . . . and there'll be the old alongside the new, for your interest. Detailed literature will be available in our booth.

←——General View — Close Up——→
of
P. I. W.'s New Washington 3′ x 15′
500 lb. Pressure Separator



Visit PIW'S 20′ x 10′ Inside Exhibit, Booths 314-316, where you'll be welcome to make your headquarters while at the show. Inspect equipment on display . . . learn the valuable features of the New PIW Well Strainer, now ready for the market after more than a year of successful field tests. Note the complete line of PIW Storage Tanks, Shipping Containers, Steel Buildings, and Refinery Equipment . . . ask a PIW representative about our Re-erection Service.

The PETROLEUM IRON WORKS COMPANY *of Texas*

BEAUMONT HOUSTON

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

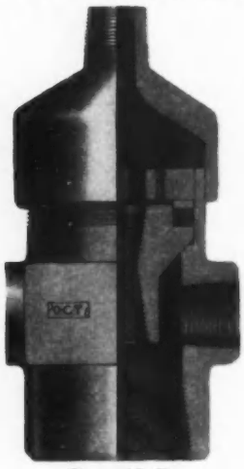
Oil Center Tool Company

Oil Center Tool Company, Houston, Texas, is displaying the complete line of O-C-T products, more than a dozen of which have been developed for the market within the last year.

▪ *Tubing Heads*

Type E-15

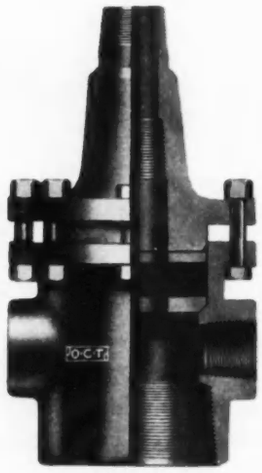
O-C-T Type E-15, forged steel slip suspension head, and O-C-T Type 15-E, forged steel thread suspension head, have the same main body, allowing conversion from slip type to thread type. Opening through main body is same size as inside diameter of casing. Both types permit drilling through the head in safety, by screwing blowout preventer on top.



Type 15-E

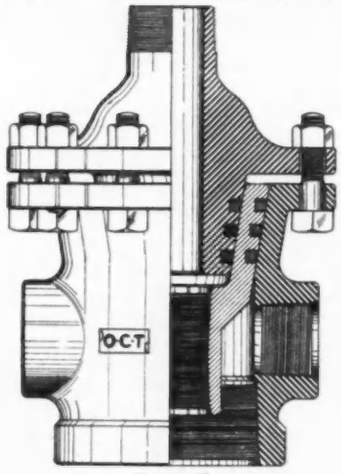
Type E-15 allows raising or lowering tubing with pressure on the well. Both are 6000-pound heads and carry lathe cut threads to A.P.I. specifications.

O-C-T Type F tubing head permits conversion of a thread suspension type to a slip suspension type by use of the slip bowl and slips furnished with O-C-T Type G head, main bodies of Type F and



Type F

Type G being the same. An O-C-T adapter is made to fit on top of Type F head and fit blowout preventer, allowing this type also to permit drilling through.



Type H

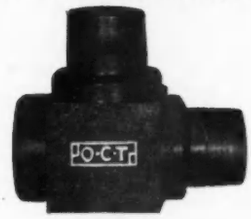
O-C-T Type H tubing head suspends tubing by the hanger, making a seal with three rings of hydraulic packing, which is fit tight in three machined grooves in the hanger. This head is chrome nickel steel except for tubing hanger, which is forged steel. Tubing hanger fits into tapered bore in main body, making tubing easy to set, as it can be run in the well and the hanger screwed on last joint and landed in the head through blowout preventer. Top part of this head is made to fit and seal inside the tubing hanger, and is flanged on top of main body of head. All threads are lathe cut to A.P.I. specifications.

▪ *Fittings*

The O-C-T Type T-114 and Type C-105 cross on exhibit at the show, illustrate improvements made during the past year to meet demands for more convenient

Type C-105 Cross

handling of well and manifold hook-ups in the field. Type C-105 cross is a two-male and two-female cross with the two female outlets being opposite the two male outlets instead of being opposite each other in conventional style. Type T-114 tee has a male outlet opposite the



Type T-114 Tee

female outlet rather than having two female outlets opposite each other in conventional style. Both these new fittings are, like other O-C-T fittings, made of high grade forged steel, for high pressures, and have lathe cut threads to meet A.P.I. specifications.

▪ *Pressure Gauge*

The new O-C-T pressure gauge is especially made for Christmas tree use. It is

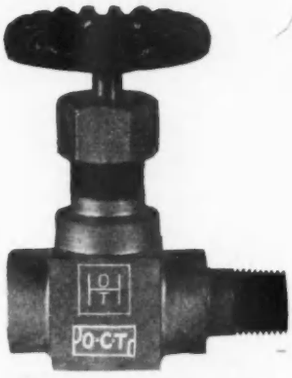
Pressure Gauge

built in 1000-pound and 3000-pound test and is furnished with six-inch face only. The 1000-pound gauge has a ¼-inch con-

nection, and the 3000-pound gauge has a ½-inch connection.

▪ *Pressure Gauge Needle Valve*

This pressure gauge needle valve is made of forged steel and is heat treated. The stem is of stainless steel, packed with asbestos. The valve body is made in a single piece. It is tested to 10,000 pounds pressure, and is turned out in all required sizes from ⅛-inch to 1¼-inch, inclusive, and is furnished in either Type MF for both male and female outlets, or Type FF, two female outlets.

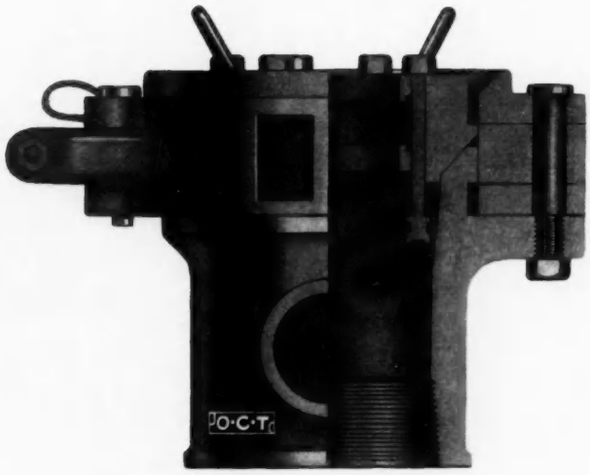


Type MF Needle Gauge Valve

▪ *O-C-T Bradenhead*

O-C-T Type I bradenhead is repackable under pressure. Operator makes sure collar is resting on lower packing, then takes the nuts off the stud bolts and removes the gland, puts in new packing, then sets gland back in place and tightens up on stud bolt nuts. Made of forged steel and chrome nickel steel. Packing is asbestos, making it as near fire proof as possible.

Type I Bradenhead



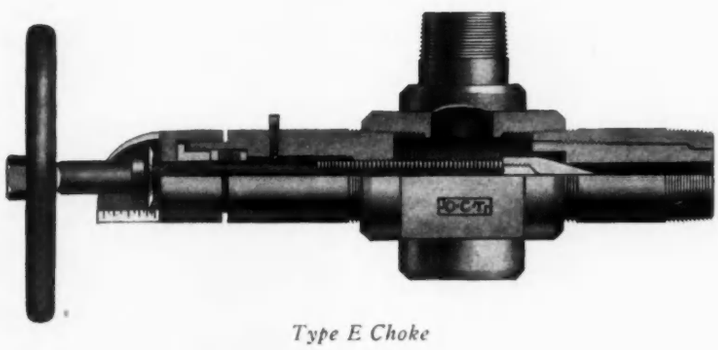
Type D Blowout Preventer

▪ *O-C-T Type D Blowout Preventer*

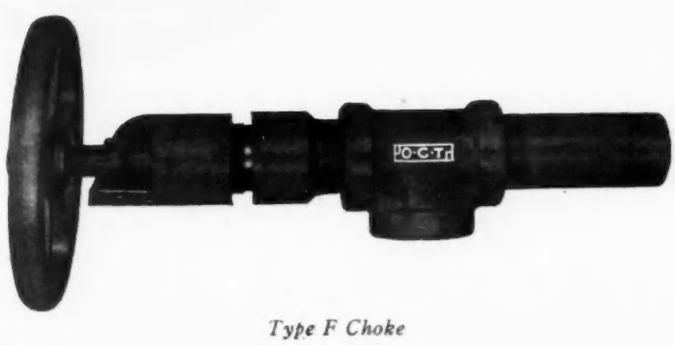
The O-C-T Type D blowout preventer is designed to allow the operator to drill in, run casing, and run tubing through the same preventer with safety, by simply swaging from the large size casing to the smaller size casing, and changing the packoff rubbers and reducing bushings to correspond with the size drill pipe, casing or tubing that is to go in the hole. Blowout preventer should be in sealing position when one string of casing has been cemented inside of another string to prevent well from blowing between the strings while the cement is setting. Made in chrome nickel steel, and all threads lathe cut to A.P.I. specifications.

▪ *O-C-T Needle Valve Chokes*

O-C-T Type E needle valve choke is built with a renewable seat bean and a renewable nose. Seat may easily be replaced by disconnecting needle valve stem guide and unscrewing seat with special wrench furnished. It is not necessary to disturb flow lines. Needle valve also replaceable by unscrewing worn nose and screwing new nose on stem. This type can be swabbed through by unscrewing and removing needle valve guide and



Type E Choke



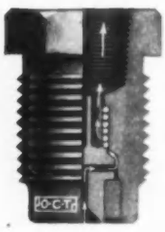
Type F Choke

stem and swabbing through cross, and can be converted into a positive type proration test.

Type F, O-C-T needle valve choke is made in tests up to and including 3000 pounds. It does not have the same renewable seat bean as Type E. In order to change seat beans in this type it is necessary to disconnect the flow line, unscrew bean from choke and screw new one in.

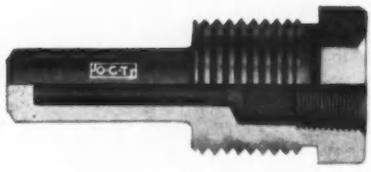
▪ *Gauge Valve Safety Check*

The O-C-T gauge valve safety check for Christmas tree use screws in the tree and the needle screws in the check. The pressure gauge then screws in the needle valve. If an obstacle should fall and break off pressure gauge and needle valve, the check automatically closes, holding pressure until another needle valve and gauge is installed.



Gauge Valve Safety Check

The O-C-T Thermowell, or separable socket was designed to be installed in the



O-C-T Thermowell

Christmas tree so that the thermometer can be screwed in at any time for a temperature reading of the fluid or gas.

▪ *Assembled and Tested Christmas Trees*

Oil Center Tool Company is displaying a number of completely assembled and tested Christmas trees, illustrating the company's method of doing this job in

O-C-T Christmas Tree

its own plant on each complete tree unit before it goes to the field. This display shows in its respective place, the individual units making up the assembly.

Diamond Metal Company

▪ *Hard Metal Materials*

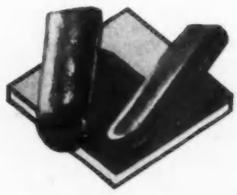
Diamond Metal Company, Houston, Texas, is displaying its line of hard

Handy Packaging of Diamond Metal

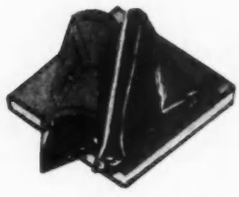
metal materials for setting drilling bits, including Diamond inserts and Diamond tube metal, as well as Swedish high carbon welding rod, which this company distributes in the Southwest; and also is displaying a group of used bits that present actual results from the field of Diamond metal products.

Diamond inserts for building up intermittent points on bit blades or cutters, particularly the reaming edges, to prevent wear and develop the cutting surface into a sharp, "green" series of "fingers," and Diamond tube metal for producing a consistently tough-hard surface around the inserts, are the result of a special processing of highly refined raw tungsten carbide. This process makes the finished product

Results of Diamond Inserts on Reaming Edge of Bit



Diamond Inserts

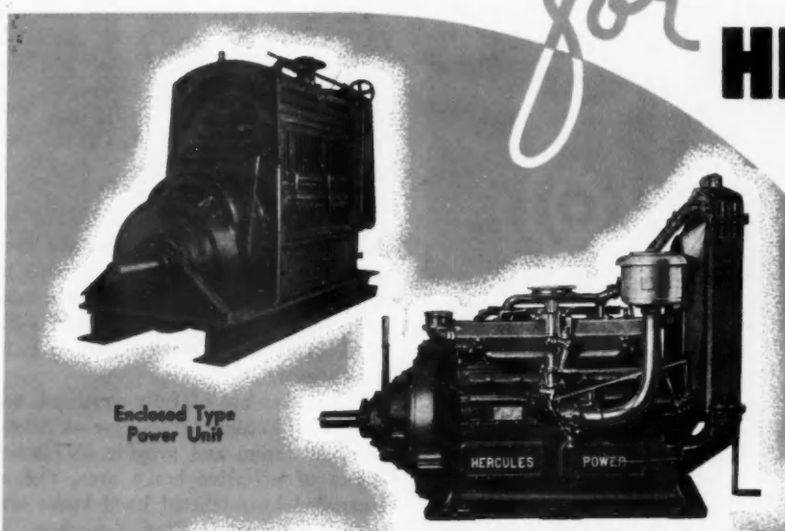


Diamond Tube Metal

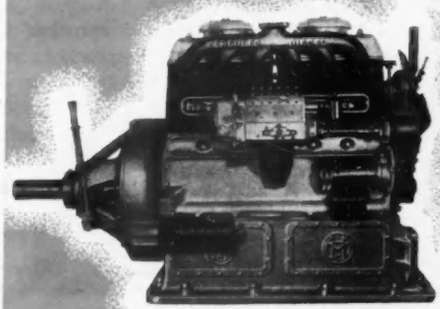
tough as well as hard, so that brittleness, and resulting chipping, is prevented. This process also prevents "floating" of the metal when being applied, and makes it go on evenly, eliminating any breaking down under even the greatest heat of a welding torch.

HERCULES ENGINES

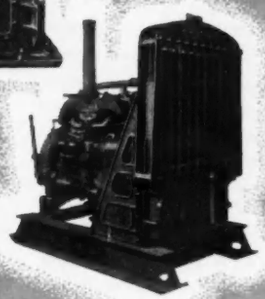
for HEAVY DUTY OIL FIELD SERVICE



Enclosed Type Power Unit



Low Fire Hazard Open Type Unit



Six Cylinder Solid Base Type Diesel Engine

Open Type Power Unit

HERCULES oil field power units have been Especially Developed for oil field applications. A Complete and Modern line of four and six cylinder engines and power units ranging in size from 4 To 200 Horsepower For Operation On Gasoline, Natural Gas And Kerosene are available as is also a series of modern, high speed design, solid injection six cylinder Diesel Engines And Power Units.

Typical models of open and closed type oil field units will be on display at the Oil Equipment & Engineering Exposition at Houston, Texas, and at the International Petroleum Exposition and Congress at Tulsa, Oklahoma.

You are cordially invited to see this display of advanced oil field engines and power units.

IN keeping with our continuous desire to serve the Texas oil fields as completely as possible, arrangements have been made with the Norvell-Wilder Supply Company of Beaumont, Texas, to carry a complete stock of oil field units and parts at Beaumont, Houston and Willow Springs, Texas, with additional stocks to follow at advantageous points as the occasion demands.

• •

Also, a Direct Factory Representative is in constant contact with the Norvell-Wilder Supply Company, with headquarters at Houston, Texas, and is ready at all times to assist in power unit application and power problems.

• •

Furthermore, a Factory Rebuilt Engine Exchange Plan is effective with Stocks of Factory Rebuilt Engines at Willow Springs, Texas. Engines requiring reconditioning or overhauling can be exchanged for factory rebuilt engines on an attractive basis, thus avoiding delay and assuring original manufacturers' parts, workmanship and supervision.

• •

The Norvell-Wilder Supply Company of Beaumont, Texas, or the Hercules Motors Corporation of Canton, Ohio, will be glad to supply further details.

• •

HERCULES MOTORS CORPORATION

CANTON OHIO

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

International Harvester Company

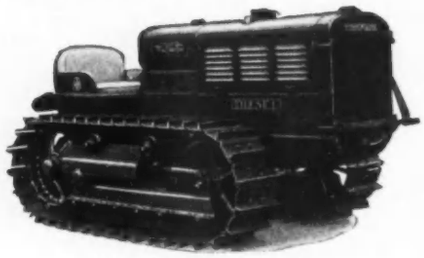
International Harvester Company, Chicago, Illinois, display consists of six tractors (Model T-40 TracTracTor, Model T-20 TracTracTor, Diesel 40 TracTracTor, Model I-30 McCormick-Deering industrial tractor, Model I-12 McCormick-Deering industrial tractor, and Model F-12 all-purpose Farmall tractor), ½-ton, 2-ton and 3-ton International motor trucks, and four types of McCormick-Deering power units (Models No. 200, 300, P-30 and new Diesel).

Particularly noteworthy are the new McCormick-Deering Diesel 40 TracTracTor and the new small Model I-12 McCormick-Deering tractor. These have just been announced.

▪ *Diesel 40 TracTracTor*

This TracTracTor is operated by a four-cylinder, four-stroke-cycle, valve-in-head Diesel engine. A distinctive system of starting makes it possible for the operator to crank the engine as easily as a gasoline type of corresponding size. To do this, a special device, set by operator but automatically disengaged, is employed to reduce the compression pressure and place in operation a gasoline carburetor and magneto.

The engine operates at compression pressures of approximately 550 to 575 pounds per square inch. The volumetric compression ratio is 17:1. Cylinders are vertical and of 4¼-inch bore and 6½-inch stroke. The engine operates at four



Diesel 40 TracTracTor

controlled speeds of 1100 revolutions per minute and under, and since the transmission provides five speeds, the tractor may move at 20 different speeds.

This ruggedly built crawler tractor is designed so all parts are accessible.

▪ *McCormick-Deering I-12 Industrial Tractor*

The new McCormick-Deering I-12 is a small, compact, low-priced tractor. It is 96 inches long overall, 50 inches wide overall, and 52 inches high over the steering wheel. Its turning radius is only 103 inches. It has a speed range from a low of 2½ miles an hour to 10¼ miles per hour.

Features of the four-cylinder, valve-in-head International-built engine are replaceable cylinders, downdraft carburetion, induction-type magneto, oil air cleaner, and oil filter with metal element that may be easily cleaned. For its size it packs a lot of power, maximum engine power is 21 horsepower.

Model I-12 Tractor

▪ *McCormick-Deering Power Unit*

These power units embody all new features of economy and performance. They are heavy-duty, four-cylinder units, with ball bearing crankshaft, removeable cylinders, high-tension magneto with automatic impulse starter and built-in factory sealed governor. They are built in four sizes.

▪ *McCormick-Deering Diesel Power Units*

McCormick-Deering Diesel power units have true Diesel-type engines, which, combined with new easy starting features, adapts them to stationary engine jobs. They operate on low-grade, low-cost fuels. The injection pump is an independent unit mounted on the side of the engine block. It is readily replaceable. The engine has variable speeds under governor control from 1100 revolutions per minute and under. A belt-driven impeller pump assures proper engine temperatures, and five stages of fuel cleaning prevents foreign substances from interfering with the functioning of the fuel pump and metering devices. The horsepower rating is 52.

Allsteel Products Mfg. Co.

▪ *Oilwell Servicing Winches*

Allsteel Products Manufacturing Company, with headquarters at Wichita, Kansas, is displaying a Cardwell-Allsteel, skid-type, oil well servicing winch, known as Model HS-6-MZF.

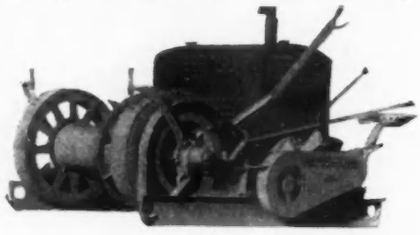
The power unit on this winch is a Waukesha 6 MZF engine that develops, according to the manufacturer's specifications, 86 brake horsepower at 2400 revolutions per minute and 64 brake horsepower at 1400 revolutions per minute. The frame is of one piece skid that is made of electrically welded structural shapes.

The drum shaft is made of four-inch SAE 3140 heat-treated steel, turned to 3¾ inches at the bearings, which are Timken heavy-duty roller bearings. The countershaft is made of 3¼-inch SAE 3135 steel, turned to 3 inches at the bearings, which are Hyatt heavy-duty roller bearings on inner races.

There are four speeds forward and one reverse. Pulls throughout the speed range are based on 1400 revolutions per minute motor speed. The speeds range from 78 feet per minute in the first forward speed to 478 feet per minute in the fourth gear.

The brakes are of fully equalized, self-energizing Wedge-Action type of Allsteel patented design and provide 1375 square inches of effective brake area, and are controlled by ratcheted hand brake lever at right side of operator.

A cathead, cathead and sprocket for driving rotary table, or sprocket only,



Allsteel Model HS-6-MZF Oilwell Servicing Winch

may be furnished for countershaft on operator end at an extra price. A spudding attachment, for mounting on special length drum shaft, with sprocket and clutch to operate attachment, and mounted in place of the cathead, may also be obtained from the Allsteel Products Manufacturing Company.

Service Pattern & Model Works

▪ *Patterns*

Service Pattern & Model Works of Houston, Texas, has on display an interesting group of patterns of articles which are familiar to the oil trade. This firm has an unusually well equipped shop for making all kinds of patterns, both wood and metal.

Its policy of service, accuracy and fair-dealing has acquired for them a desirable clientele in the Houston trade area. The personnel are all highly skilled craftsmen, having many years of practical experience.

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

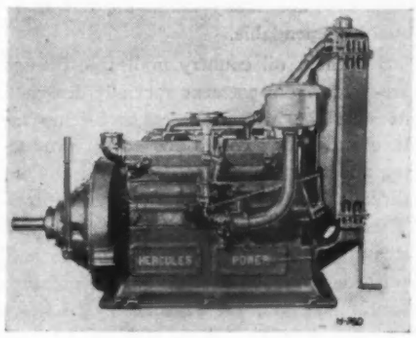
Hercules Motors Corporation

Hercules Motor Corporation, Canton, Ohio, exhibiting with Norvell-Wilder Supply Company, its district representative and sales agent, is showing a six cylinder low fire hazard open type power unit and its largest of a series of heavy duty, high speed design, solid injection Diesel engines. This company manufactures a complete line of heavy duty four and six cylinder engines arranged specifically for oil field application and which range in size from four to 175 horsepower.

▪ *Model DHX Diesel Engine*

Hercules has developed Model DHX, a six cylinder, solid injection, high compression, full Diesel engine, for automotive, general industrial and oil field purposes. It has a five-inch bore and a six-inch stroke, and is constructed to operate at speeds up to 2000 revolutions per minute.

The crankshaft is of the underhung type, supported by the crankcase which can be had of either aluminum or cast iron, and which extends four inches below the crankshaft center, thus forming a deep tubular rib to give side stiffening to the case. Cylinder liners are of the wet sleeve type mounted in the cylinder block with copper gasket seal at the top and rubber rings at the bottom. The timing gears are mounted on the end opposite the flywheel with a trunion about the crankshaft projection for three point



Model RXB Gas Engine

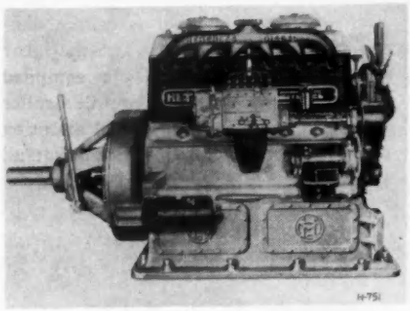
mounting purposes. A silent chain drive at the front of the camshaft gear drives the fuel at half engine speed.

Main and connecting rod bearings are of removable steel shells lined with a high lead bronze alloy. The connecting rod is of H section design, drop forged and rifle drilled to carry oil to the piston pin which is of molybdenum steel, full floating and held in place by aluminum buttons in the piston. The piston is provided with four compression rings and two oil drain rings. The overhead valves are actuated by drop forged rock arms drilled for valve stem lubrication and mounted on a hollow hardened and ground shaft held in brackets bolted to the cylinder heads.

The DHX will develop from 100 horsepower at 1000 revolutions per minute to 177 horsepower at 188 revolutions, and 188 horsepower at 2000 revolutions. The fuel consumption is .383 pounds per brake horsepower per hour at 1000 revolutions, .430 pounds at 1800 revolutions and .46 pounds per brake horsepower at 2000 revolutions per minute.

▪ *Model RXB Gas Engine*

This Hercules engine is a six cylinder unit with a 4½-inch bore and 5¼-inch stroke. The engine and equipment is water and weatherproof, all running parts



Model DHX Diesel Engine

being enclosed which eliminates the necessity of any housing.

The engine is equipped with an extra large flywheel into which is assembled a clutch of oversize capacity to transmit maximum power of engine and which is mounted on oversize bearings properly aligned to give long service.

A combination natural gas mixing valve and gasoline carburetor is assembled to the manifold and the throttle of the valve is connected to the governor that automatically meters the proper amount of natural gas and air according to the load requirements. Hercules Motors Corporation furnishes a telegraph or remote throttle control. This control is connected to the speed adjustment of the governor and through it the engine speed is governed as desired.

An oil bath type air cleaner cleans the air entering the gas valve and its construction forms a flame arrester.

Oil is pressure fed to all main and connecting rod bearings and accessory shaft and a viscometer is provided that readily indicates to the operator the condition of the oil and when oil should be changed.

The engine is provided with removable dry cylinder sleeves made of nickel chromium centrifugal cast iron and removable intake and exhaust valve seats.

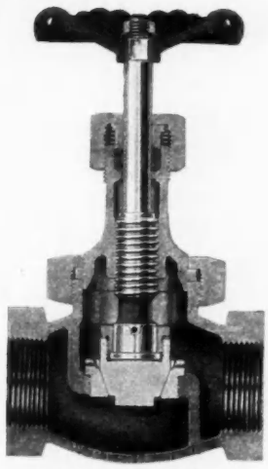
The Lunkenheimer Company

▪ *Plug Type Valves*

The Lunkenheimer Company, Cincinnati, Ohio, exhibiting with Norvell-Wilder Supply Company, is featuring a new line of plug type "Ferrenewo" and "Renewo" valves.

Plug type valves are recommended for throttling, drain, drip, water column blowdown, and other service demanding maximum resistance to wire drawing and other destructive action on valve seat bearings.

The seat and disc are made of "NS-5" alloy (patent applied for), a new and exclusive Lunkenheimer research development. "NS-5" is a non-ferrous alloy of great hardness (300 Brinell); it will not gall, is resistant to wear, abrasion, erosion and corrosion, and retains its hardness at high temperatures.



Lunkenheimer Valve

The plug is deep-seated and ground to a full length, uniform bearing from end to end. Each disc is ground into its own seat with a fit as perfect as it can be made to insure tightness and satisfactory service.

Plug type seats and discs are interchangeable with those in regular Lunkenheimer "Ferrenewo" and "Renewo" valves, making it possible to convert a regular valve into a plug type by simply changing the seat and disc. This feature reduces stock room inventory and maintenance expense.

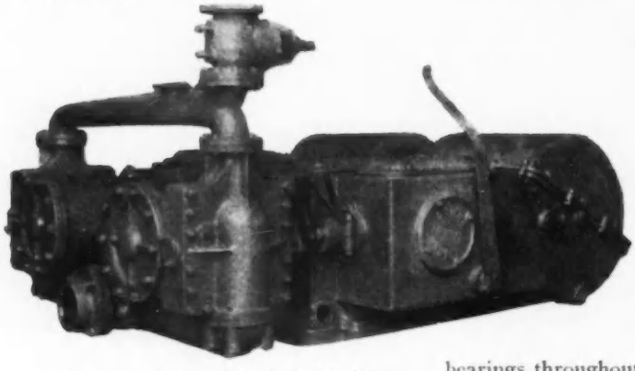
Another new product on exhibit is the "Alvor" Constant Level Oil Control—a device for indicating and maintaining the proper oil level in ring-oiled bearings, and thereby minimizing the possibility of dry and over-heated bearings.

The exhibit also includes a complete line of bronze, iron and steel valves; boiler mountings; lubricating devices, and other specialties.

American Well & Prospecting Company

▪ *Gumbo Buster Steam Drilling Engine*

American Well & Prospecting Company, Corsicana, Texas, is displaying its Gumbo Buster 14 x 13 twin cylinder drilling engine, which is one of the largest on the market.



Gumbo Buster 14 x 13 *Twin Drilling Engine*

The engine is fully enclosed and is lubricated by two auto type vane force feed lubricators situated one at each end of the crankshaft. These lubricators force oil under pressure through the hollow crankshaft to the main and connecting rod bearings, and also to all other moving parts. The six-inch double throw, one-piece, counter balanced forged steel crankshaft rests in four main bearings.

The valve mechanism is of special design with steam exhausting straight through the balanced valve. All valve mechanism is fully enclosed and lubricated by enclosed force feed oil pumps. It is equipped with balanced throttle valves. Cylinders, steam chests, links, eccentric rods and eccentrics are interchangeable from one side of the engine to the other.

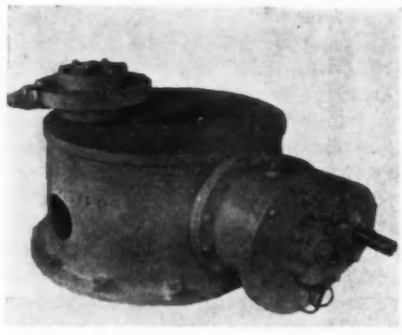
▪ *Gumbo Buster Geared Pumping Power*

This geared pumping power is fully enclosed and runs in a bath of oil. The oil is forced, under pressure, to the bearings and working parts by a large plunger pump that is located on the outside of the unit in an easily accessible place. The base is of heavy reinforced semi-steel casting.

The master wheel is a chrome nickel steel casting and revolves on two sets of large roller bearings, which in turn operate on a large steel column or pilot that is fastened securely to the base. The pull rod disc pin or crank pin is oversize and shrunk and riveted securely to the master wheel. It is fitted with a hardened and ground replaceable bearing sleeve. This permits the transmission of the power from the large gear direct to the crank pin, which eliminates a number of working parts. This construction also permits a considerable lessening of the overall height from foundation to the pull rod disc.

The large gear on the master wheel and the pinion are cut from a solid steel forging and are hardened after cutting. The large ring gear is held securely by shrinking on and welding to the master wheel.

The Gumbo Buster power is of the double reduction gear type. It is equipped with large size roller bearings throughout, and special attention has been given to the design so that all working parts can be reached easily.



Gumbo Buster Geared Pumping Power

Stockham Pipe & Fittings Company

Stockham Pipe & Fittings Company, Birmingham, Alabama, is displaying a complete line of its oil industry fittings.

▪ *Cast Iron Fittings*

This company manufactures a wide range of cast iron fittings, including screwed, flanged, flanges, drainage and sprinkler types. Stockham fittings meet all essential requirements as to strength, accuracy and finish. They are accurately threaded with bevel faces that make them go on easily, which enables pipe fitters to do accurate work at a saving of time and labor.

Standard fittings are suitable for working steam pressure up to 125 pounds. Although capable of carrying much higher pressures, and often used with apparent safety up to 150 pounds, the limit of 125 pounds is recommended in view of the many unknown stresses that occur in all piping, as resulting from expansion and contraction, bending, sagging, and water hammer.

Stock fittings in reducing sizes are made to cover a wide range of requirements in general work. Where other reductions are necessary they can always, and usually should, be made by the use of bushings rather than by calling for special fittings that must be made to order. Special reducing fittings can be made by Stockham wherever it is necessary or advisable to avoid bushings.

▪ *Malleable Fittings*

Stockham malleable fittings are made in the following styles: standard; extra heavy, oil; heavy oil; hydraulic; flanged and flanges.

Malleable fittings are of the highest grade, manufactured by the latest equipment and methods under strict laboratory control. They are made from strong, tough iron according to American Standard dimensions. Ample body thickness and beads, perfect threads—not too deep nor too tight—and a liberal bevel insure that they are easily made up and thoroughly dependable.

Stockham oil country malleable fittings are made from patterns specially designed to meet the high-pressure, high-temperature and shock conditions of oil producing and refining. Extra long, perfectly cut threads insure absolutely tight joints. These are equally suitable for saturated steam, superheated steam within the prescribed limits, and hot or high-pressure continuous still, oil, gasoline or gas lines, as well as other industrial service where similar conditions are met.

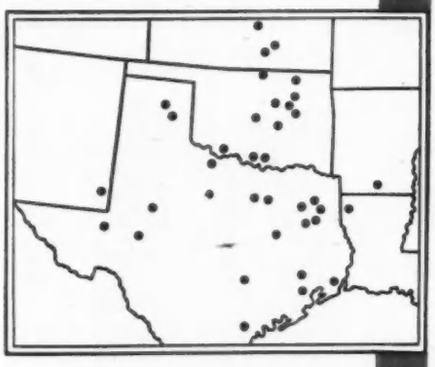
▪ *Electric Steel Fittings*

Electric steel fittings are made in screwed, flanged and flange types by Stockham. Fittings of special design or analysis, such as alloyed with chromium, nickel, etc., can be furnished to specifications by Stockham. The company invites particularly inquiries for conditions of high pressure and super-heat, such as oil production and refinery, steam, etc.

QUICK SERVICE
TO THE OIL FIELDS

SUPER EXCELO

Branded with the A. P. I. Symbol and made to specifications that considerably exceed the A. P. I. minimum requirements.



Dots indicate the location of our distributors' field service points.

OIL COUNTRY BELTING . . . .

NRA MEMBER U.S. WE DO OUR PART Operating Under Approved Code No. 156

ENGINEERING COUNSEL, quick delivery and certain satisfaction are the elements of transmission belt service which Republic and its distributors render daily to the oil fields. Trained men study every operation right on the job and are ready with their knowledge gained from long experience to help you solve your technical problems. In many field store outlets Super Excelo is stocked by our distributors in a complete range of widths and plies to promptly meet all your requirements.

Here is a belt of exceptional strength and endurance, high flexibility, minimum stretch and perfect ply adhesion that completely answers the demands of the most severe conditions. Made endless when specified.

Mid-Continent Distributors

FRICK-REID SUPPLY CORPORATION, TULSA, OKLA.
THE BOVAIRD SUPPLY CO., TULSA, OKLA.

THE REPUBLIC RUBBER CO. YOUNGSTOWN, OHIO

Manufacturers of Rotary and all other types of Hose, Transmission Belting, Packing, Gaskets, Rings, etc. for Oil Country Service

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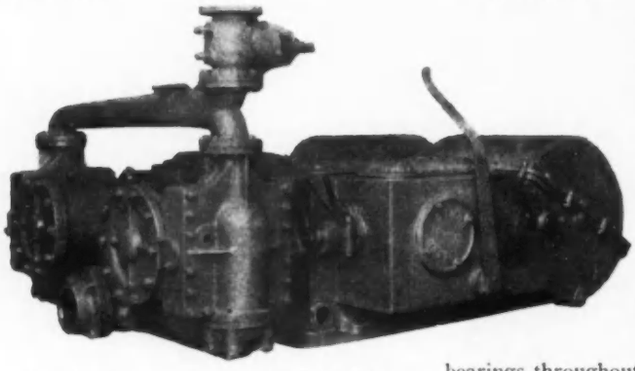

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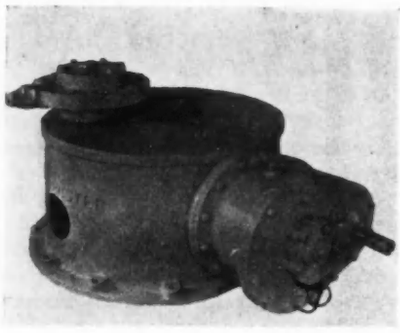

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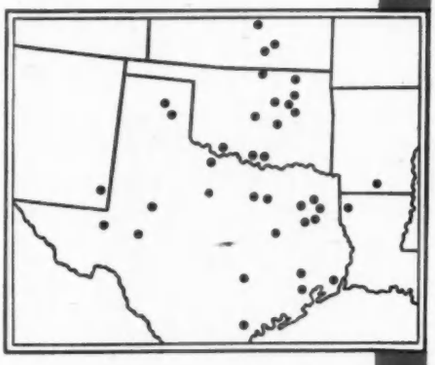

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NRA
WE DO OUR PART
Operating Under Approved Code No. 136

ENGINEERING COUNSEL, quick delivery and certain satisfaction are the elements of transmission belt service which Republic and its distributors render daily to the oil fields. Trained men study every operation right on the job and are ready with their knowledge gained from long experience to help you solve your technical problems. In many field store outlets Super Excelo is stocked by our distributors in a complete range of widths and plies to promptly meet all your requirements.

Here is a belt of exceptional strength and endurance, high flexibility, minimum stretch and perfect ply adhesion that completely answers the demands of the most severe conditions. Made endless when specified.

Mid-Continent Distributors

FRICK-REID SUPPLY CORPORATION, TULSA, OKLA.
THE BOVAIRD SUPPLY CO., TULSA, OKLA.

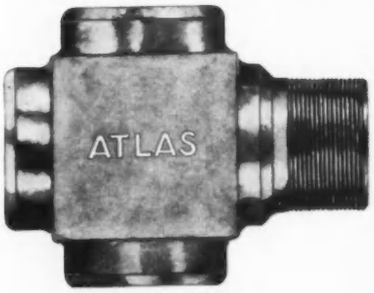
THE REPUBLIC RUBBER CO. YOUNGSTOWN, OHIO

Manufacturers of Rotary and all other types of Hose, Transmission Belting, Packing, Gaskets, Rings, etc. for Oil Country Service

Atlas Engineering Works

▪ *Crosses, Tees, Ells*

Atlas Engineering Works, Houston, Texas, has on exhibit a wide line of products included among which are its crosses, tees and ells that are lathe cut from forged steel to A.P.I. specifications. These are made in many sizes and styles to

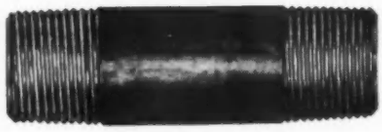


Atlas Fitting

meet a variety of operating conditions. All Atlas fittings are manufactured for four pressure tests, which are 1000, 2000, 3000 and 5000 pounds.

▪ *Nipples*

Atlas nipples are lathe cut to A.P.I. specifications and range in size from four inches to 12 inches. The company's swaged nipples are bored, turned and threaded from forged steel.



Atlas Nipple

The company also manufactures choker nipples, forged steel plugs and steel bushings in a wide range of lengths and pressure specifications.

▪ *The Murphy Tool*

The Murphy portable reversible hydraulic unit can be transported easily to any section of the field. It has a wide variety of uses, among which are liner pulling, pulling gears, straightening pipes and bars, pulling seats, etc.

▪ *Atlas Flange Unions*

These unions are made of finest forged steel, carefully machined, heat-treated and tested to highest capacity. They consist of four parts; non-swivel flange hub, swivel flange hub, swivel flange and the interchangeable full hole seal ring. The interchangeable full hole seal ring is designed as to eliminate turbulent action of the liquid passing through it.

Atlas also manufactures an interchangeable flow bean seal ring for this union. In the bore of this ring there is a screw thread for screwing the flow bean into the flow bean seal ring. The flow bean is six inches in length and may be installed with an ordinary hexagon-head socket wrench.

▪ *Packer and Setting Tool*

Superfluous parts have been eliminated design of the Atlas packer and setting tool. The packer, having an overall length of 50 inches, allows for ample tong space, and, because the canvas is 36 inches in length, a long time packed joint will result. A stroke of 12 to 15 inches will seal off 20 to 24 inches of the casing length.

Packer and Setting Tool

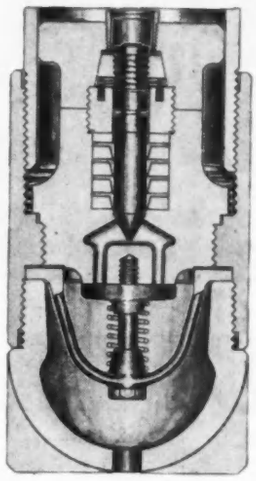
The setting tool, being interlocked with the packer, is released by a half turn of the drill stem or the string of tubing being used and is locked in a released position. This lock and release is a positive cam acting and locking device. After the lock is released the necessary pressure is applied to pack off. After packing off the go-devil is released, traveling through the string of pipe, the setting tool, the wash pipe and to its final position in the back pressure valve. When the go-devil seats itself in the back pressure valve the pump pressure will run up and the pump will cease to operate. This indicates that the go-devil is in its correct position in the back pressure valve. The entire string of pipe, the setting tool and the wash pipe may then be withdrawn from the hole.

▪ *Reworked Valves*

Atlas Engineering Works has perfected an organization of highly trained valve experts that is capable of performing exacting labor in a skillful and efficient manner. The department reworks all makes and types of high and low pressure valves. They are inspected and tested to their highest capacity of pressure and are guaranteed in perfect condition upon leaving the shop.

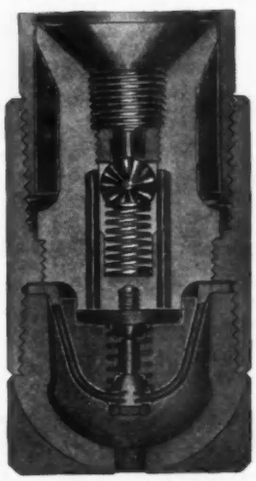
▪ *Back Pressure Valves*

Atlas back pressure valves are made in two types, the go-devil and the single ball and seat. The go-devil type is for use with the Atlas packer and setting tool. It is of odd design, having an ordinary pop valve on the bottom. Together with this and above the valve seat are four



Go-Devil Type Valve

reversed cups of special design. Still further above the cups are a set of slips that engage the go-devil slip nut. Should any back pressure pass by the pop valve, the slips, being engaged, will actuate and retain the go-devil in its regular position and the four special cups will clamp themselves around the main body of the go-



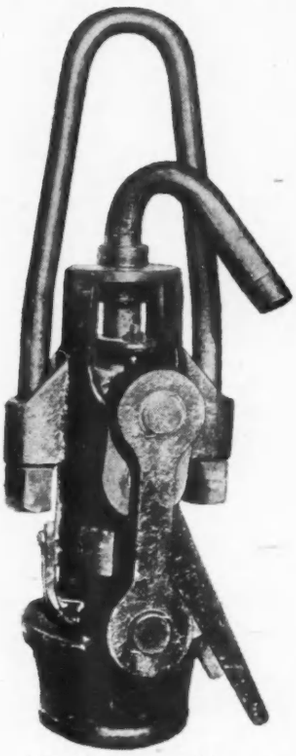
Single Ball and Seat Valve

devil, completely sealing off any back pressure.

The single ball and seat type is designed for use with any make of oil well screen. It combines strength with adaptability to meet any conditions.

▪ *Circulating Elevator*

This elevator is used going in and coming out of the hole when continuous circulation is required. It is of sturdy design. A quick acting link and lever mechanism is used, requiring only one man to operate it. A set of slips, being retained

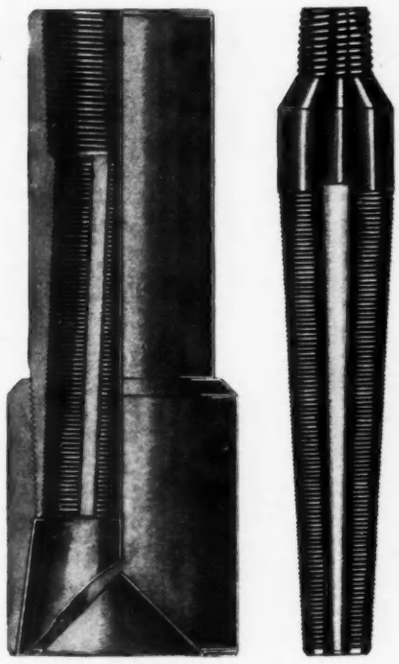


Atlas Circulating Elevator

by the slip holder and being connected to the main body, are free when in a released position. When the lever is pulled down, the slip spider travels in the upward direction, closing the slips around the drill stem and sealing off the connection. To release the elevator from the drill stem the lever is pulled in an upward direction.

▪ *Taper and Box Taps*

Atlas taper and box taps are made with precision from quality materials. The taper tap is made in lengths from 25 inches to 32¾ inches and in diameters from 1¼ inches to 4½ inches. Box taps are constructed in 16-inch lengths with outside diameters of 4½, 5⅝ and 7¾ inches.



Atlas Taps

Emsco Screen Pipe Company

▪ *Slotted Screen Pipe*

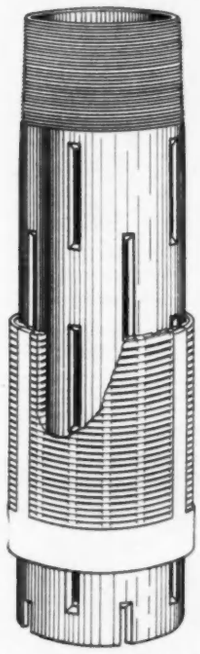
Emsco Screen Pipe Company, Houston, Texas, is showing its slotted screen pipe—a screen made pipe with no wrapping or inserts. It offers maximum smoothness, ease of setting, ease of pulling, and length of life. It may be rotated or spudded reasonably without risk of damage.

Slots are milled with walls parallel for approximately one-half the thickness of the pipe. Walls then branch out into a "V" shape which permits anything that can enter a slot to be carried through. The number and arrangement of slots have been so calculated as to afford sufficient opening every few feet to admit fluid equal to the full capacity of the pipe, regardless of the size of pipe or gauge of screen.

Emsco Slotted Screen Pipe

Emsco screen pipe is made with regular couplings or flush joint. The obvious advantage of the flush joint is that it provides a smooth outside surface, gives more clearance in setting, and makes the pipe easier to pull. Emsco slotted screen pipe is furnished in any size gauge from .010-inch to .10-inch or larger. It is furnished in all sizes from 2½-inch to 15½-inch.

▪ *Emsco Wire-Wrapped Screen*



Cutaway view of Emsco Wire-Wrapped Screen

To meet the requirements of operators who prefer a wire wrapped screen, the Emsco Screen Pipe Company has developed and perfected Emsco wire-wrapped screen.

Pipe is pierced with slots measuring 2 inches long by ¼-inch wide, instead of the conventional round perforations.

The use of slots for perforations gives Emsco wire-wrapped screen, on the average, considerably greater total area of opening into the pipe, per foot.

Because of the unusual design of the "T" wire with which it is wrapped, the new Emsco screen provides horizontal, vertical and criss-cross oil circulation between the inside surface of the wire and the pipe.

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Baash-Ross Tool Company

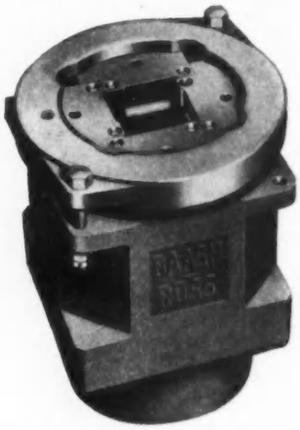
Baash-Ross Tool Company, Los Angeles, California, is exhibiting in the booth of Norvell-Wilder Supply Company, its Gulf Coast distributor. The display consists of a complete line of tools for drilling, fishing and production.

▪ *Baash-Ross Packing Casing Bowl*

When eliminating a defective portion of a string of casing, this casing bowl is threaded to the bottom end of the string to be connected to the casing in the hole. The string is then lowered until the piece standing in the hole contacts the shoulder above the bore, which bore is the same size as the inside diameter of the casing. An upward strain causes the slips to engage the lower string, and a continuance of the strain compresses the lead packing until a perfect seal has been obtained between the inside of the casing bowl and the outside of the lower string.

▪ *Roller Kelly Bushing*

This bushing is correctly designed to enable the kelly to pass through the bushing without binding, to aid in controlling the feed of the bit, and in maintaining steady, uniform pressure, so desirable in coring, fishing and other drilling operations. The body is made of a one-piece steel casting, properly heat treated. The



Baash-Ross Roller Kelly Bushing

roller assembly contains forged alloy steel rollers and hardened pins, and are equipped with Alemite fittings for fast, simple lubrication. Roller assemblies are easily inserted or removed by releasing two bolts and unscrewing the cover. It is not necessary to break any subs to install bushings, as there is ample clearance through body and cover.

This Baash-Ross roller type kelly bushing insures free downward movement of the kelly, and, according to the manufacturer, eliminates: unnecessary wear on the table and drive bearings, which must carry all the weight of the entire string, if the kelly binds in the bushing; sudden strains, shocks and overloads on wire lines and other equipment when the kelly suddenly releases; twist-offs resulting from the bit dropping and "digging-in" after being momentarily held off bottom; and an uncontrolled, uneven feed of the bit, core barrel or fishing tool.

Baash-Ross Upset Kelly

▪ *Baash-Ross Upset Kelly*

The Baash-Ross upset kelly has a gradual taper from the square of the kelly to the upper box, providing maximum strength at this vital point, where failures may occur from metal fatigue and crystalization. The solid upset box and pin eliminates two subs, and the possibility of trouble when added connections must be used. Sufficient stock is left at either end for recutting the threads four or five times, a feature which combines with correct design and high quality materials to provide long life, low cost and trouble free operation.

▪ *Baash-Ross Blowout Preventers*

The Baash-Ross method of blowout prevention is to obtain a pack-off around the drill pipe or tubing before the gas pressure has been permitted to expel the mud from the hole. This mode of procedure is accomplished by the use of a forged steel body equipped with threads on the lower end to screw into a casing coupling, with an internal bore terminating in a tapered shoulder to receive a packing assembly and threads on outside of the upper end to which is threaded a lip ring for holding and tightening the packing in its proper place.

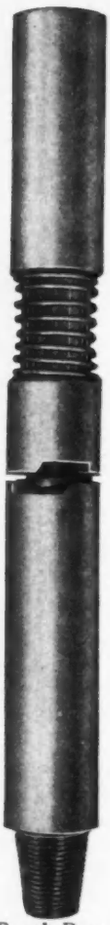
The body is screwed into the coupling, with the lip ring attached, as soon as the casing has been landed and cemented. The assembly or packing, is hung in the derrick, ready for instant use, and a pack-off may be procured with the first warning of an impending blowout.

▪ *Rotary Releasing Spear*

The sleeve of the tail piece of the Baash-Ross rotary releasing spear is equipped with a spirally milled slot that engages a pin mounted in the mandrel. The lower end of this slot has a flat spot that holds the sleeve in its upper position, preventing the slips from contacting the casing while the spear is being run.

When the desired depth is reached, the spear is rotated sufficiently in an unscrewing direction to move the flat section of the spiral slot beyond the pin. An upward pull on the spear leaves the tail piece in a lowered position at the same time releasing the slips to engage the casing. The slips are connected so as to avoid possibility of a single slip engaging and damaging the casing.

To release the spear a reversal of the above procedure causes the slips to disengage the casing.



Baash-Ross Autolock Safety Joint

▪ *Autolock Safety Joint*

This safety joint is run near the bottom of the fishing string. A controlled amount of resistance to unscrewing insures positive operation—only one half the torsional strain required for breaking-out a tool joint being necessary for unscrewing the autolock safety joint.

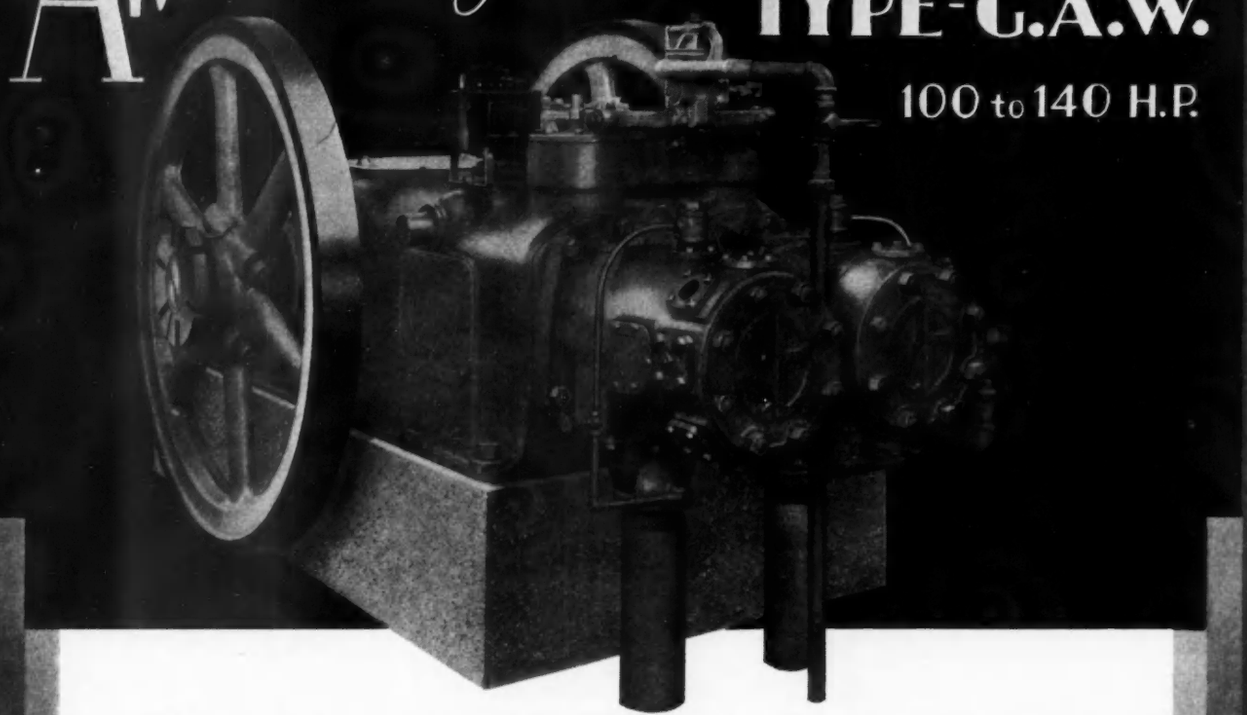
A spring is mounted to force together beveled shoulders on the male and female members of the safety joint. The degree of bevel and strength of the spring are proportioned to provide sufficient resistance against unscrewing to permit proper operation of fishing tools.

▪ *Other Products*

In addition to the products described here, Baash-Ross Tool Company has on exhibit perforators, liner hangers, rotary releasing sockets, drill pipe and casing cutters, and many other items.

Announcing the NEW TWIN COOPER-BESSEMER TYPE-G.A.W.

100 to 140 H.P.



OIL FIELD operators familiar with the advanced engineering features of the twin cylinder Type G. A. U. have asked for a larger engine of exactly the same design. Sixty to one hundred B. H. P., which is the rating of the G. A. U., wasn't big enough for some of the largest geared pumping powers and other oil field jobs.

The G. A. W. has been designed and built by Cooper-Bessemer to meet the request. It is heavier in every detail, but otherwise almost identical in design to the thoroughly field tested Type G. A. U.

Die forged crank shaft, roller bearings, box type main frame, oil immersed chain drive for governor, magneto and lubricator are some of the features which make it longer lived, easier to maintain and cheaper to own and operate throughout the years. It can be converted to oil at any time. Write the nearest branch for full information.

THE COOPER-BESSEMER CORPORATION

PLANTS: MT. VERNON, OHIO GROVE CITY, PA.

DISTRICT OFFICES

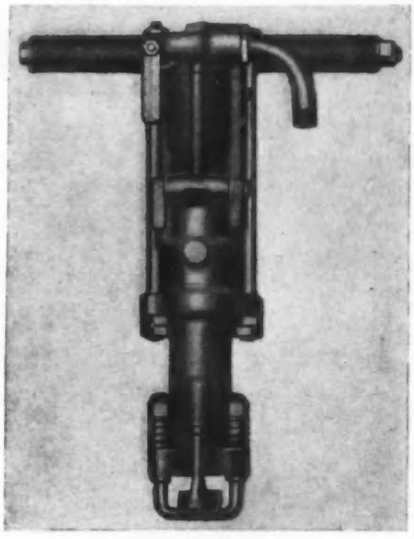
25 West 43rd St., New York City
53 Duncan St., Gloucester, Mass.
201 E. First St., Tulsa, Okla.
817 Mills Bldg., Washington, D. C.
1314 Magnolia Bldg., Dallas, Texas
225 Crockett St., Shreveport, La.
Grove City, Pennsylvania
640 E. 61st St., Los Angeles, Cal.
505 Esperson Bldg., Houston, Texas

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Gardner-Denver Company

▪ *Hand Held Drill*

Gardner-Denver Company, Quincy, Illinois, is exhibiting its Model S-55



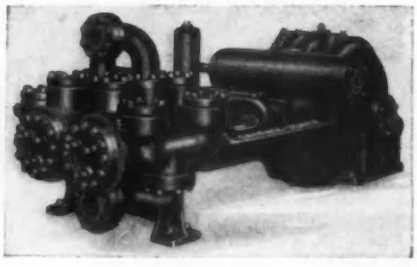
Model S-55 Sinker

"perfectly balanced" drill, embodying great drilling capacity with the qualities of easy riding and conservative air consumption. Added to this is an excellent hole cleaning ability.

It is usually preferred for road work, general excavation, and shaft sinking, but is also adapted to mounting on a low hung guide shell, for drifting in medium formations. Bore 2⅝ inches.

▪ *High-Pressure Power Pumps*

Gardner-Denver high pressure power pumps are of the completely enclosed flood-lubricated type. The divided fluid end consists of two entirely separate cylinder castings, which are united by the combined suction manifold and cylinder foot at the bottom, and the discharge manifold above the cylinders. They are also rigidly tied together by the heavy flange of the steam cylinder cradle, or power end.



10-inch stroke divided fluid cylinder pump

With this construction, all walls are outside, exposed for inspection and there are no inner baffles, walls, or metal sections between the two sides of fluid end to be cut through by mud, or by abrasives in the water. At the same time the total weight of the divided fluid end is less than that of a one-piece fluid end suitable for the same working pressures. Divided fluid cylinders, and all cylinder parts are interchangeable and may be used either on the steam or power pump.

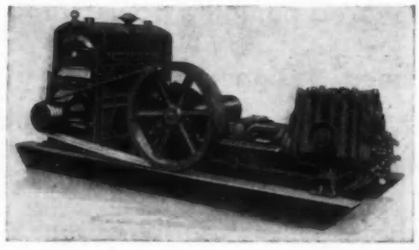
These power pumps may be mounted on steel skids with motor, or engine mounted on adjustable base directly over the pump frame. The "V" belt drive is recommended as a quiet and satisfactory form of drive.

▪ *Engine Driven Skid Mounted Units*

Engine driven skid-mounted pumping units are suitable for diversity of applications and may be used for pumping water, oil, gasoline, or other liquids. They are widely used in the oil fields as gathering pumps and as water supply units.

Any Gardner-Denver high pressure power pump may be incorporated into a skid-mounted pumping unit. The system of interchangeable pump liners and pistons makes any unit suitable for a considerable range of pressures and capacities.

The engine is of the multi-cylinder, four-cycle type for operation on gasoline, equipped with governor, stand-



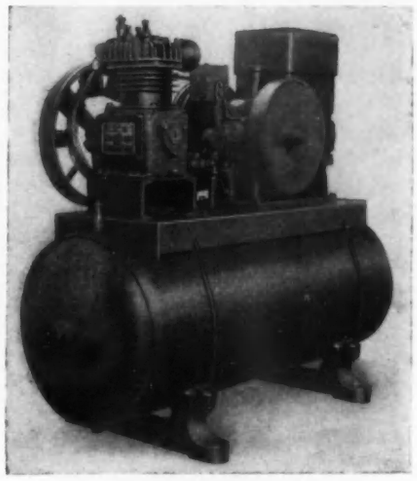
4 x 6 engine driven pumping unit

ard make high tension magneto with impulse starter, carburetor, air cleaner, and gasoline tank. Twin Disc Clutch with operating lever permits engine to be started without load. When required, gas mixing valve may be furnished to permit using natural gas for fuel.

The outfit is mounted on heavy steel "H" beams, with rigid cross members welded in place. The engine is mounted on a steel plate, properly supported by the skids, and provided with adjusting screws for tightening "V" belts.

▪ *Engine Starting Compressors*

Special vertical two-stage compressors are furnished for starting stationary gas and Diesel engines. Each outfit is complete, including the following equipment: engine or motor with rails



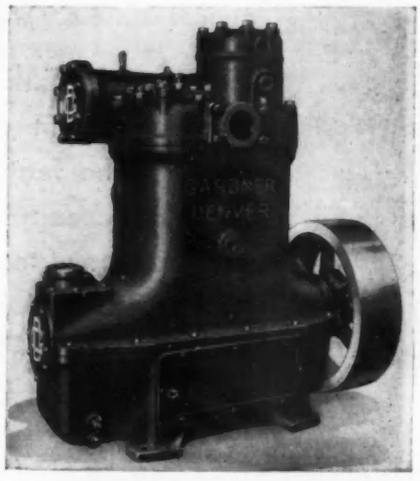
3½ x 2 x 2½ duplex two-stage air-cooled unit.

for tightening belts; "V" belt drive; air receiver for required pressure complete with safety valve, drain valve, and pressure gauge; stopping device; and outlet globe valve.

These compressors may be driven by gasoline or gas engines or electric motors, and the compressor may be mounted on the tank as shown, or supplied with base for floor mounting and with separate air receiver.

▪ *Duplex Two-Stage Compressors*

The Gardner-Denver line of duplex two-stage compressors duplicates the



5½ x 2¼ x 5 duplex two-stage water-cooled unit

duplex single stage machines except for the high pressure cylinder and the addition of the inter-cooler. It will be noted that the low pressure cylinder head, high pressure cylinder, and inter-cooler shell are all combined in a single casting.

The crankcase, crankshaft, bearings, connecting rods, and low pressure cylinder parts are identical in construction and interchangeable with the corresponding parts of the duplex single stage compressors.

Air is compressed in the first stage or low pressure cylinder, passing through the intercooler where the heat of compression is removed. The air then enters the high pressure or second stage cylinder where it is compressed to the required discharge pressure.

These duplex two-stage compressors may be furnished with extended base for direct connection to motor or engine, with extended base and "V" belt drive, or with tight pulley for long center flat belt drive.

State Bit Company

▪ *Replaceable Bit*

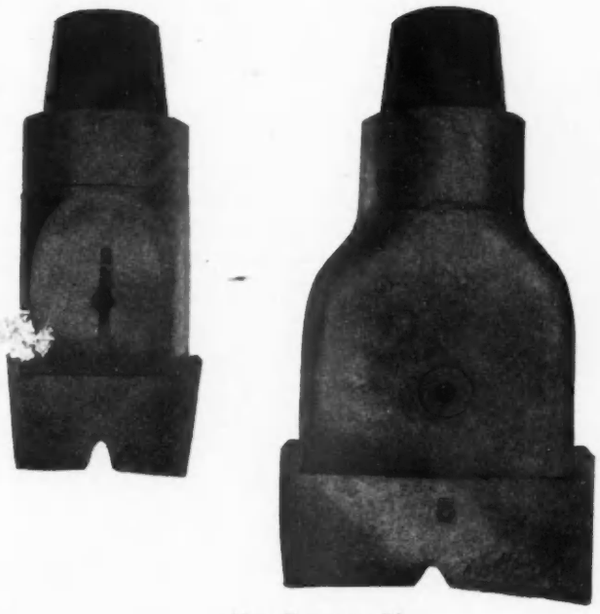
State Bit Company, Houston and Refugio, Texas, is exhibiting the "New Recovery Bit," which, through its unusual design, eliminates the practice of running the same blade in any hole a second time. The bit head is furnished the operator, who buys new blades of virgin steel for each run, thereby avoiding the use of worn, rebuilt metal.

Design is such that the blade fits into the bit head in a way so as to eliminate all friction of the blade, which is machined the same as the head. The design of the blade permits cutting and shedding hard and soft formation alike. The twist of the blade is such as to give the bit a shearing effect rather than a mere drag, or paddle effect.

The bit is locked in the head by a case hardened locking bolt, which screws into the bit head and has a safety key for additional locking. The locking bolt is made to taper flush into a special taper in the bit blade so that there is no strain on the bolt. It is merely embodied in the bit assembly to hold the blade in the bit head while going in and coming out of the hole.

The design of this blade, as it fits into the bit body, has eliminated the chatter common to replaceable blade bits.

Both the bit head and blade are cast from the highest grade of steel available for the purpose and are machined to precision.



New Recovery Bit

D & M Machine Works

▪ *D & M Pistons*

The D & M piston is one-piece, sturdy, efficient, fool-proof, the original piston with the flexible lip contact which assures expansion to maintain the proper liner seal in proportion to the pressure developed. Also are suitable for use with heavy mud as well as clear water, and may be built with special rubber to combat abnormal conditions.

▪ *Water End Rod*

The D & M universal water end rod was designed in the D & M plant to accommodate the demand for a rod end that would be applicable to all pumps—hence, the name "Universal." This rod is machined of high grade steel, heat treated, ground to size and checked with hardened and ground gauges before passing final inspection; thereby guaranteeing the operator a uniform grade of merchandise.

Diener-Dugas Fire Extinguisher Corporation

▪ *Fire Fighting Equipment*

Ever Ready dry chemical fire extinguishers, manufactured by Diener-Dugas Fire Extinguisher Corporation, Chicago, Illinois, and represented in the Gulf Coast by Ever Ready Fire Extinguisher Company, Houston, Texas, have been developed to meet extremely hazardous conditions.

Number 150 Dry Chemical Fire Engine

The automatic system developed by this company is made in two sizes, both of which have many applications in the oil industry. This apparatus is controlled by cables with fusible links, or rate of rise releases, installed in the room or vault to be protected. When fire occurs, fusible link melts at 160 degrees, automatically controlled fire alarm is set off at any determined point, room is flooded with the Ever Ready dry chemical. One important factor in the use of the Ever Ready system is the manufacturers claims that it will not injure or damage any machinery.

Diener-Dugas fire engines are also made in two sizes. They may be easily moved about by one man and may be used indoor or outdoor. The company also makes smaller extinguishers.

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Houston Oil Field Material Company, Inc.

▪ *Emsco Slotted Pipe*

Houston Oil Field Material Company, Houston, Texas, is exhibiting, among the oil field products it distributes in its territory, Emsco slotted screen pipe, a screen made from pipe with no wrapping or inserts. Banks of slots are so arranged that strips of solid steel, running the full length of each joint, are left between to provide maximum tensile strength. Walls of this pipe are milled with parallel walls for about one-half the pipe thickness, then branch out into a "V" shape to permit anything which can enter to be carried through. It is furnished in any size gauge from .010-inch to .10-inch, or larger, and in pipe sizes from 2½ inches to 15 inches.

▪ *Emsco Wire Wrapped Screen*

Homco is also exhibiting Emsco wire-wrapped screen, having pipe slots measuring two inches long by one quarter-inch wide and so spaced that strips of steel, running the full length of pipe joint to provide greater strength, and more opening area for flow. This slotted pipe is wrapped with "T" wire, giving a horizontal, vertical and criss-cross oil circulation between the inside wire surface and the pipe.

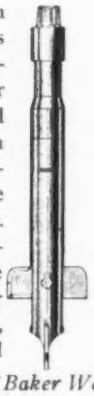
▪ *Blowout Preventer*

This preventer consists of a heavy steel body which screws on the casing and a pack-off assembly which quickly latches on drill pipe and sets down in preventer body to effect a seal. Pack-off assembly automatically locks when once in preventer body. Special releasing rods permit releasing pack-off assembly from derrick floor after the well has been placed under control. It has two flow-line outlets. It is furnished in sizes to pack off all sizes of drill pipe and tubing.

Homco Blowout Preventer

▪ *Baker Wall Scraper*

The Baker wall scraper on display is in operation. It is a hydraulically operated under-reamer, with scraper blades which are expanded by pump pressure and which cut their way up to a horizontal position while the string is being rotated. Blades are then held in position, once their full gage is attained, by the shoulder formed in the formation, circulation being maintained throughout the scraping operation.



Baker Wall Scraper

▪ *Rotary Drilling Chain*

Jeffrey oil well rotary chain is built in a balanced design to withstand the jerking strain of driving the rotary and hoisting heavy pipe loads. It is made in two sizes, A.P.I. No. 3, and A.P.I. No. 4, and in three grades—standard, plus and alloy.

A.P.I. No. 4 Jeffrey Chain

▪ *Brake Blocks*

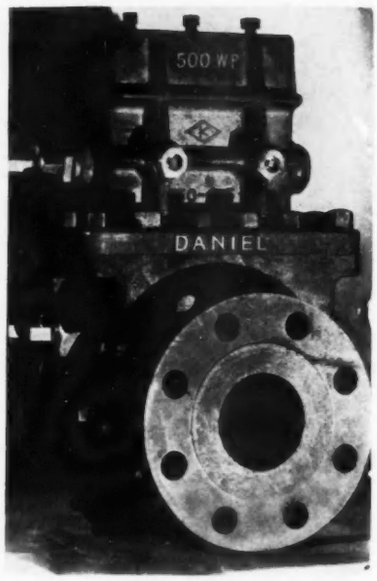
Standco woven brake blocks, a product of Standard Brake Lining Company, a brake lining especially developed to prevent scoring of steel brake rims in deep well drilling. It is a solid interweave of long fibre asbestos cabled cords and has no layers to separate and peel off. It is reinforced with sofft bronze wire of special formula to rapidly conduct heat from the friction surface to allow a cooler operating brake.

Standco Brake Lining

Daniel Orifice Fitting Company

▪ *Daniel Orifice Fitting*

Several new and greatly improved features are incorporated into this fitting which insures safety to the operator in orifice plate changing and inspection. A stainless steel valve, separating lower or line compartment from the upper chamber, permits the satisfactory use of this equipment in highly corrosive service heretofore considered too severe for orifice fittings. A powerful pinion means is used for quickly removing the orifice plate unit from the line. The simple top cover sealing arrangement makes access to plate removing chamber exceedingly simple. By incorporating a pressure equalizer and other outstanding features, the manufacturer has developed a balanced orifice fitting which has functioned entirely satisfactorily under natural gas pressures as high as 2000 pounds per square inch. Plate inspection is further simplified by reason of the fact that only one wrench is required for all operations. To provide a less bulky orifice plate, this fitting is supplied with a light, inexpensive, wafer plate or insert.



Daniel Orifice Fitting

This equipment, manufactured by Daniel Orifice Fitting Company, is being exhibited by M. N. Dannenbaum Company, District Representatives, Booths 522, 524, 623, 625.

DON'T LEAVE THAT FROZEN DRILL PIPE IN YOUR WELL!

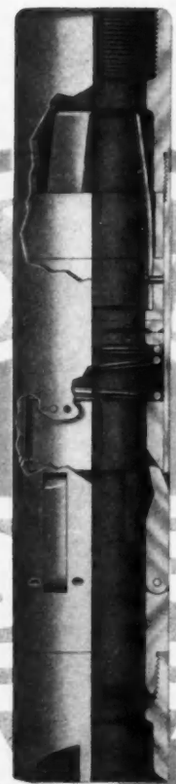
Call the BAASH-ROSS Service Man

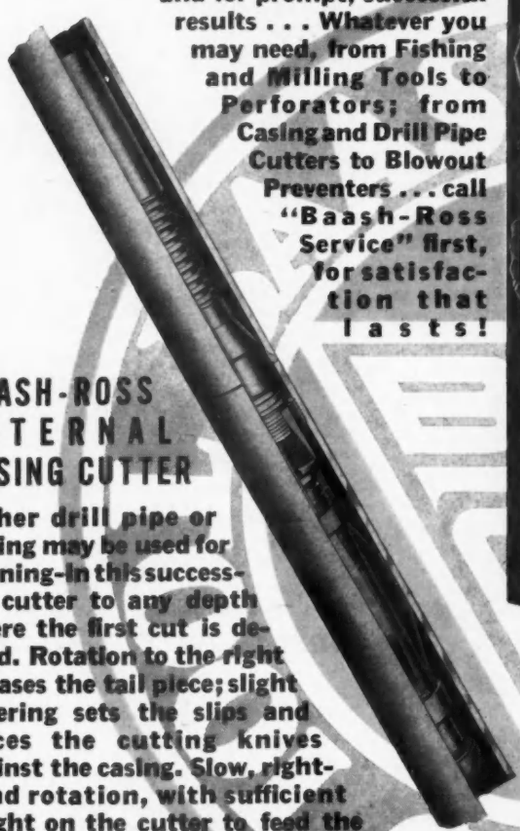
USE THE COMPLETE BAASH-ROSS SERVICE

All you need do is to get in touch with the nearest Baash-Ross Service Store to secure practical, field-tested tools for making fishing jobs easier, and for prompt, successful results . . . Whatever you may need, from Fishing and Milling Tools to Perforators; from Casing and Drill Pipe Cutters to Blowout Preventers . . . call "Baash-Ross Service" first, for satisfaction that lasts!

BAASH-ROSS EXTERNAL DRILL PIPE CUTTER

This tool is run-in over stuck or frozen pipe, on a string of wash pipe. By raising the string until the overshot contacts a coupling or tool joint, the knives are released and forced against the pipe. Slow rotation to the right makes a quick, clean cut and leaves the fish resting on overshot dogs, for prompt removal from the hole. A Slip Assembly Type readily cuts flush joint pipe.





BAASH-ROSS INTERNAL CASING CUTTER

Either drill pipe or tubing may be used for running-in this successful cutter to any depth where the first cut is desired. Rotation to the right releases the tail piece; slight lowering sets the slips and forces the cutting knives against the casing. Slow, right-hand rotation, with sufficient weight on the cutter to feed the knives, then secures a quick, clean cut. Several cuts can be made during same run, to save time and expense.

BAASH-ROSS AUTOLOCK SAFETY JOINT

Only one-half the torsional strain for breaking-out a tool joint is required to unscrew the Autolock Safety Joint, which is run near the bottom of a fishing string. If the fish, or fishing tool, cannot be removed, the operator can back-off, with complete assurance that the Autolock Joint will unscrew before any other joint in the string. Resistance to unscrewing is sufficient for successful operation of fishing tools.

See these modern, efficient tools—and many others—demonstrated at the Houston Show! If you do not attend the Exposition, send us your name and address for the new, free Baash-Ross Catalog which contains descriptions of equipment to "modernize" your operations

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The Guiberson Corporation

▪ *Tubing Catcher*

The Guiberson Corporation has on display its newly designed Type "E" tubing catcher, which is a distinct improvement over its previous models, and is designed to meet the present day well conditions.

Type E Tubing Catcher

The head of the catcher is a steel forging, with fishing neck as an integral part thereof. The tubing used in the catcher is seamless upset throughout and screws into the head, making a regular upset connection, thus giving the operator the assurance that the catcher head on a Guiberson Type "E" tubing catcher is really a part of the entire string of tubing and not merely welded to it.

The slips are designed to sustain any load imposed upon them without distortion to the casing and at the same time they are so proportioned and placed on the head as to allow a large by-pass area past the head, thus eliminating any possibility of the catcher plugging the casing.

The use of an anchor attached to the catcher is becoming more and more universal. The Guiberson catcher has a specially designed anchor attachment that insures the life of the anchor indefinitely. The springs do not come in contact with the casing and consequently do not wear out. The contact with the casing is made through special vertical shoes which at all times give a uniform pressure against the casing, regardless of how long the anchor has been in use or how far it has traveled through the casing. The anchor attachment is only eight inches over-all and does not increase the length of the catcher.

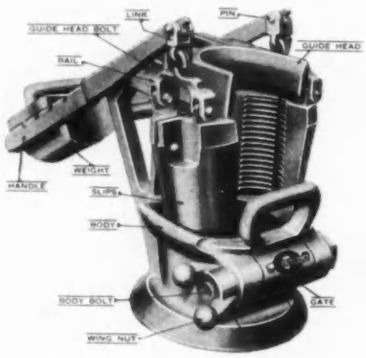
▪ *Tubing Spider*

The Guiberson tubing spider is a new high-speed all steel device for handling tubing. Simplicity will be noticed in the assembly of this spider, as only one bolt is required through the gate as the slips are connected to the handle with a hook and eye swivel and the handle is connected to the spider in a manner which requires no bolts.

The use of the guide-head, the balanced handle, the adjustable weight and the four-piece pivotly balanced slips assures safety to the operator as well as to the tubing. The operator may move the weight in or out on the handle in order to balance the slips properly. If it becomes necessary to let slips drag in the bowl, the weight may be removed from the handle.

In operating the slips the workman may stand at a safe distance from the tubing and is not required to bend over the spider or to place his hands near the slips. He is thus protected from injury and is not likely to inhale the gas fumes rising from the well nor are his eyes subjected to the poisonous gases which arise from wells in some fields.

One of the main features of the Guiberson tubing spider is the adjustable guide-head, which has long been needed in handling tubing. It is no longer necessary for the operator to force the slips in the spider bowl to properly align the tubing, as this guide-head aligns the tubing in the center of the bore of the spider, and at the same time acts as a guide and a stop for the slips. It is necessary to place the spider around the tubing so that



Guiberson Tubing Spider

the guide-head and handle will be on the side against which the tubing drags. When the slips are set and the tubing is held in the center of the spider, it is necessary to fasten the guide-head securely in contact with the tubing as it is adjustable to all sizes. Then the tubing will drag in the center of the bore allowing the slips to slide freely and accurately around the tubing, which assures proper setting of the slips at all times.

▪ *Type "E" Swab*

The Guiberson Type "E" swab consists of a one-piece, hollow steel mandrel with a perforated tool connection integral with it, two cup assemblies, two thimbles, one separating sleeve, and a large opening check valve. Only seven major parts to make up one complete swab.

Type "E" Swab

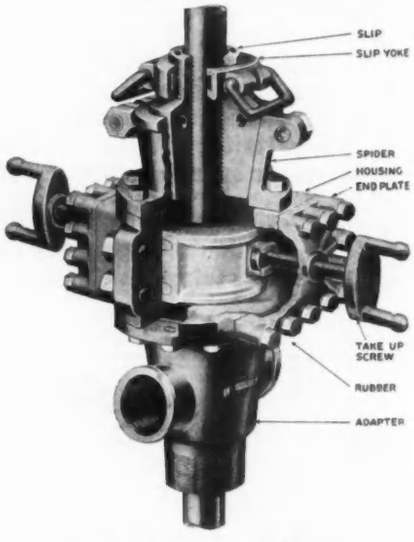
The assembling and disembling of the Type "E" swab is a simple operation. To assemble the swab, a cup assembly is first slipped over the bottom of the mandrel, then a thimble, a sleeve, another cup assembly, a thimble and the check valve. The screwing up of the valve tightens the complete assembly, thus making a solid unit from the top cup to the valve. In disassembling the swab the same method is followed, except reversed. Thus, we have a complete swab with only one joint to make up to assemble, one to unscrew when changing cups. With the short, strong mandrel, there is no danger of the swab becoming bent in handling or working in the well. This swab is compact in design, eliminating all unnecessary material, yet embracing all that is necessary to make it a strong and efficient swab.

The holes in the separating sleeve permit the washing out of any sand that might lodge between the sleeve and mandrel.

The large opening valve has four wings or ribs cast integral with the body of the valve. These ribs greatly strengthen the valve; they serve also as guides and provide a convenient hand-hold when unscrewing the valve from the swab.

▪ *High-Pressure Tubing Oil Saver*

The Guiberson high-pressure tubing oil saver is designed to eliminate entirely



High-Pressure Oil Saver

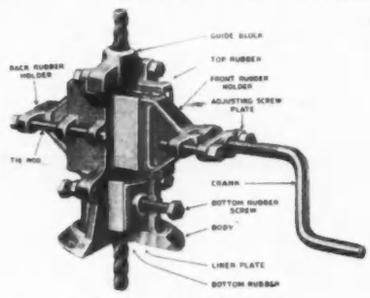
the waste and danger caused by spraying or scattering of oil around the derrick and over the men on the derrick floor when running or pulling tubing in flowing wells.

This tubing oil saver is particularly useful when running packers in wells before gas pressure has subsided. The construction is such that a packer, or tubing catcher will readily pass through same, and it can then be closed to snugly engage the tubing, yet allowing the tubing collars to pass without having to retract the rubbers.

It is manufactured as a split type tool. Thus it can be readily assembled, or removed from a string of tubing without disturbance. The housing is made in two halves which are held together by substantial bolts on either side. These assembled housings have been subjected in tests to many times the load of the longest string of tubing they will ever be called upon to support. The tongue and groove rubbers are made of tough, oil resisting composition. They are held in place by a metal cage which is molded integral with the rubber. The tapered lips in the bore of the rubbers permit the collars on the tubing to readily pass through without any loss of oil. On the backs of the rubbers are lips which contact the housing and prevent the escape of any fluid around the backs of the rubbers. These rubbers are inserted through the back of each half of the housing. Then end plates, properly braced and gasketed, are bolted to the back of the housing, forming an oil or gas-tight unit. Adjustment of the rubbers is governed by a screw-dog operating through each end plate.

▪ *Wire Line Oil Saver*

The Guiberson wire line oil saver was designed with three important features in view, namely, efficiency, economy, and simplicity of operation. The efficiency



Wire Line Oil Saver

of this tool is due in a large measure to the method of operating the main packing rubbers. Contrary to the usual practice in wire line oil savers, where first one rubber and then the other is screwed against the line, the rubbers in this oil saver are brought together evenly and with equal pressure. It is readily apparent that this could not be possible if the rubbers were bearing with unequal pressure against the line because of the fact that the rubber with the greatest pressure will wear the fastest and the efficiency of the saver reduced. In other words, the operating rubbers on this tool are full floating and center themselves automatically on the line.

The bronze guide blocks on top of the saver give greater protection to the wire line and minimize fire hazard due to the absence of sparks.

H. John Eastman, Ltd.

▪ *Controlled Directional Drilling Equipment*

H. John Eastman, Ltd., Houston, Texas, is exhibiting its complete line of equipment.

▪ *Controlled Directional Drilling Equipment*

The Eastman line of directional drilling equipment consists of removable whipstocks, Eastman-Lewis deflecting tools, bits designed to decrease or increase drift angle, and other equipment designed to aid drilling, making it possible to control drift angle and direction of drift.

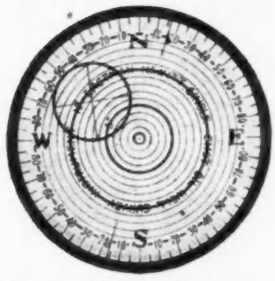
This equipment is offered as a service, wherein it furnishes trained surveyors, necessary survey instruments, and the proper deflecting tools to meet particular needs, for a reasonable cost which generally can be quoted in advance.

The usual practice in deflecting a well is to run one of these tools which is carefully oriented for proper direction, then drill 20 feet of hole and remove the deflecting bit; then run an Eastman single-shot survey and check results. By surveying often, carrying an up-to-date survey plan, and running deflecting tools when needed, it is relatively easy to complete the job with very satisfactory results.

▪ *Single-Shot Survey*

The Eastman-Hewitt single-shot oil well survey instrument enables the operator to obtain a complete and accurate survey of his well at the time it is being drilled. This instrument is run into the hole on the sand line after the drill pipe is removed, and within five minutes after withdrawal from the hole gives a permanent photographic record showing the inclination and direction of the hole at the point where the observation was taken. This enables the operator to apply corrective measures before the deviation of the hole from its desired course has reached a serious amount and entirely obviates the necessity of cementing

Multiple Shot Machine *Single Shot Machine*



Single Shot, Actual Size Photograph

back to abandon hole which has deviated from the desired course.

This instrument may be leased by operators who may compile their own surveys from the photographic records taken during the course of drilling operations; in which case no one but the operators have any information regarding their own wells. If desired Eastman engineers will compile survey maps from the single-shot records.

▪ *Multiple-Shot Surveys*

Eastman's oldest service is the making of accurate surveys by continuous photographic record showing drift angles and directions of completed, or partially completed, open hole or cased wells. These surveys can be made with Eastman instrument attached to either drill pipe or wire line. (Wire line in open holes only.)

These survey instruments are calibrated to give accurate results.

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★ **In their strife for fast and efficient operating** oil men realize that their reputations as dependable and efficient operators depend to a large degree on the kind of equipment they use.

To enable operators to choose superior, modern equipment, the Norvell-Wilder twenty-two demonstration booths are provided.

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BAASH-ROSS TOOL COMPANY
JEFFERSON UNION COMPANY
HEWITT RUBBER CORPORATION
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★ Out of the large Norvell-Wilder section of 2200 square feet of demonstration booths, we have provided the space of six booths as a reception room. Here you can sit down and rest as our guests.

The Norvell-Wilder Man invites you to make yourself at home in the Norvell-Wilder section. He will treat you royally.

Norvell-Wilder Supply Company

Baroid Sales Company

Baroid Sales Company, Los Angeles, California, is exhibiting its complete line of mud conditioning equipment.

▪ *Baroid*

Baroid is a specially processed pulverized Barytes, manufactured and sold under U. S. Patent No. 1,575,945. It is a uniform, water-ground product of approximately 4.2 specific gravity, almost twice that of ordinary clay, and is used for controlling oil, gas and water pressures encountered during drilling.

Sack of Baroid

Baroid has excellent suspending and wall-building characteristics. Baroid will not settle from the mud, even though circulation is suspended for months. The fine particle size of Baroid, together with the suspensoid incorporated during manufacture, causes the building of a mud wall in the uncased hole which prevents loss of fluid from the hole, prevents caving and prevents penetration of mud into the formation. This thin wall is quickly washed out when the well is ready to be put on production. Baroid possesses excellent lubricating qualities and will greatly lengthen the life of equipment used in the circulating system.

Where a drilling mud weighing between 75 pounds and 90 pounds per cubic foot (Sp. G. 1.20 to 1.50) is required, Baroid in sufficient quantities can be added directly to the mud in the circulating system. For preparing drilling muds heavier than 90 pounds per cubic foot it is recommended that Baroid and water alone be used. Pumpable muds weighing as much as 145 pounds per cubic foot (19.4 pounds per gallon) have been prepared from Baroid. Baroid is available in several different grades to meet various conditions encountered in drilling.

▪ *Aquagel*

Aquagel is a specially selected and prepared clay which contains a high concentration of gel type colloids. This type of colloids is found in small quantities in all clays and is responsible for most of the desirable qualities of drilling muds. It is the gel-type colloids which give clays their wall-building properties in the hole.

Aquagel Drilling Mud

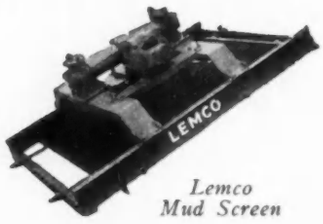
Aquagel and water alone make an excellent drilling mud which weighs 64 pounds per cubic foot (Sp. G. 1.03) and has excellent sealing and wall-building characteristics. One hundred forty to 180 barrels of such mud can be prepared from each ton of Aquagel, this effecting a great saving in initial cost of mud.

In cases where a mud heavier than the above is required, the ordinary native mud made in the course of drilling usually will provide adequate weight and when this is compounded with Aquagel, in quantities of from two percent to three percent by weight, an excellent drilling mud will result.

▪ *Lemco Mud Screen*

The Lemco mud screen has been used for over four years and under many kinds of drilling conditions as a successful means of eliminating sand and cuttings from the drilling mud. In the motor-driven unit the vibrating mechanism is directly connected to the motor; in the turbine-driven unit the vibrators are driven through a reduction gear from the turbine.

Screen cloth assemblies are furnished in 30B, 30A, 30 and 40 mesh, as drilling conditions demand. These assemblies are fabricated in Baroid sales shops and the method of mounting is such as to insure a considerably greater life for the screen cloth.



Lemco Mud Screen

▪ *Stabilite*

Stabilite is a liquid chemical compound, developed after several years of research and field tests, and used for reducing the viscosity of drilling muds without destroying the wall-building properties of the mud. Stabilite will quickly release entrained gas from gas-cut muds and will pay for itself many times over by insuring longer life of the mud. Stabilite treated muds will not settle out in the hole. It is of particular value when using weight-materials in the mud or in drilling through bad heaving or caving formations.

Stabilite Chemical Compound

Stabilite is not to be confused with the ordinary chemical treating methods in use, as it is entirely different and will accomplish results which cannot be obtained in any other manner. It is made in several different grades for use with different types of muds, and is sold in fifty-gallon drums.

C-O-Two Fire Equipment Company

▪ *C-O-Two Fire Extinguishers*

A line of portable carbon dioxide fire extinguishers of 7½, 10, 15 and 20 pound gas contents announced recently are being shown by C-O-Two Fire Equipment Company, 560 Belmont Avenue, Newark, New Jersey.

These extinguishers are recommended for a variety of electrical, marine and industrial fire hazards, particularly those involving flammable liquids or electrical equipment. They extinguish fire by discharging a harmless inert gas, carbon dioxide, which dilutes the flame supporting oxygen and smothers the fire.

The gas, retained in a liquid state under pressure in a steel cylinder will not leak, freeze or deteriorate. It does no damage to persons or things. Extinguishers are easily and quickly recharged at any local carbonic plant.

The C-O-Two valve holder disc seals the extinguisher against leakage. One side

of a puncturing cutter is blunt to prevent the disc from being entirely cut out. In this way the pressure of the discharging gas "hinges" the disc and prevents any cut portion from clogging the outlet or falling into the cylinder when emptied.

C-O-Two extinguishers are also available with one or two pound cylinders on wheels. C-O-Two hose reel and hose rack stations may also be installed for marine, aviation and industrial protection.

▪ *C-O-Two Fire Extinguishing System*

A wide variety of electrical, marine, and industrial fire hazards can be protected automatically by this new pressure operated type, C-O-Two system. This system extinguishes fire by releasing carbon dioxide gas from steel cylinders, through fixed piping, terminating with nozzles in the protected space. "Pressure operation" utilizing the pressure of the discharging gas from initially released control cylinders, is a distinct advance in carbon dioxide fire protection, for it eliminates levers and weights for each individual cylinder, the possibility of accidental discharge, and simplifies the removal of cylinders for weight checking.

This carbon dioxide is a harmless dry inert gas and should not be confused with toxic carbon monoxide. Carbon dioxide does no damage except to fire. Being a gas it penetrates wherever air exists and smothers fire by diluting the oxygen necessary for combustion. Gas is stored in steel cylinders in a liquid state and when released the force of its own expansion causes it to discharge and penetrate out-of-the-way places and extinguish fire which may not even be visible. Only a few seconds are needed to complete the extinguishment.

Each cylinder in this system has a C-O-Two auto-pneumatic discharge head, approved by Underwriters' Laboratories. These heads are made from heavy brass forgings and have but one moving part, the piston assembly. They employ an entirely original and positive action whereby the pressure of the discharging gas from two control cylinders, initially released, is utilized to discharge simultaneously any number of cylinders as a single unit.

The C-O-Two cylinder valves have a standard refilling connection and are fitted with a side safety or pressure relief disc which absolutely precludes accidental discharge in the event of an abnormal pressure being developed in any cylinder.

Another important feature of this system is the simplicity of removing cylinders without danger of accidental discharge when making a weight check of cylinder contents. Removal is accomplished by simply unscrewing a ring nut coupling connecting the discharge head to the cylinder valve, loosening the clamps of the cylinder being inspected and pulling out the wood block on which the cylinder is mounted. This permits the cylinder to drop down and be taken out for weight checking. The empty and full weights are stamped on the neck of each cylinder.

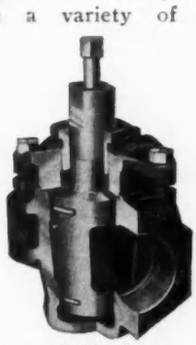
If fire occurs during this inspection the system will operate without the cylinder being inspected and without loss of gas from the discharge head where the cylinder has been removed. This safeguard is provided by a ball check in the piston of the discharge head.

This cylinder removal feature makes it unnecessary to disconnect or disturb discharge heads, levers, cable connections or discharge bends, for they remain a part of the permanently installed header and piping.

Merco Nordstrom Valve Company

▪ *Lubricated Plug Valves*

Merco Nordstrom Valve Company, Pittsburgh, Pennsylvania, and Oakland, California, is showing a complete line of lubricated plug valves for use in the oil industry. Nordstrom valves are made in all sizes from ½-inch to 30 inches in a variety of materials,



Cutaway view of Nordstrom Lubricated Plug Valve

wrench or gear operated, and for pressure ranges of up to 3000 pounds per square inch.

As a comparatively recent development, this company is showing for the first time the EMCO-Nordstrom valve which widens still further the application of their well known line of lubricated plug valves. EMCO-Nordstrom valves have standard gate valve face-to-face dimensions and thus may be used for replacement service in existing lines, due to their corresponding dimensional size.

▪ *Master Control Christmas Tree Valve*

Production men will be particularly interested in the Master Control and Christmas Tree Valves built by Nordstrom. The Drilling Through Valve is of the plug type embodying two distinct features. The plug is designed with a round opening in the sizes normally used, and the mechanical lift principle is combined with the well known lubricated plug principle to pro-

Emco-Nordstrom Valve

vide ease of operation and absolute shut-off. With the round opening, which is the same size as the casing or tubing, no eddy or turbulent flow can exist and thus much of the cutting action by sand is eliminated.

Master Control and Christmas Tree Valve

Drilling Through and Master Control Valves can be provided for all sizes and pressures normally encountered in drilling operations. They can be operated by means of either single or double bar control or by gearing.

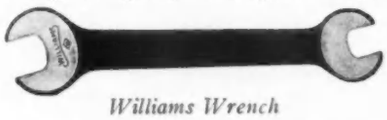
EQUIPMENT Featured at Oil Equipment & Engineering Exposition

J. H. Williams & Co.

J. H. Williams & Co., 400 Vulcan Street, Buffalo, New York, has a complete exhibit of its various tools.

▪ *Williams' Carbon Steel Wrenches*

Williams' carbon-steel wrenches are entirely drop-forged and hardened, and of highest quality throughout. Open-

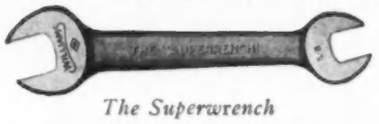


Williams Wrench

ings are accurately milled, surfaces and edges finished smooth and furnished with bright heads and baked on black enamel handles. Available in 50 patterns—more than 1000 sizes.

▪ *Williams' "Superwrenches"*

Williams' "Superwrenches" are forged from chrome-alloy steel, permitting a trim, light, slim-jawed design of unusual strength. Superwrenches are available in all popular patterns including single



The Superwrench

and double head engineer's, Duohex-Box patterns and offset socket wrench patterns designed especially for refinery service. All "Superwrenches" are heat treated and chrome-plated with high polished heads. Every "Superwrench" is guaranteed against breakage.

▪ *"Vulcan" Chain Pipe Vise*

These vises are unbreakable, light, compact, rapid in action and positive in grip. Suitable for fastening to either bench or post. They are made entirely of wrought steel with drop-forged jaws,

Vulcan Chain Pipe Vise

saw tempered for file sharpening. The chains are of the same quality as Williams' Vulcan chain pipe tongs. All parts are fully guaranteed. Available in 4 sizes for pipe ⅛-inch to 8 inches.

▪ *"Vulcan Boll Weevil" Reversible Chain Pipe Tongs*

"Vulcan Boll Weevil" is a simplified tong, having only six parts. It is designed for general oil country service, but it is particularly suited for pipe line work. The "I-Beam" construction of the handle lends rigidity and strength. Two bolts firmly secure the jaws, making it impossible for them to spread. The operation of "Vulcan Boll

"Vulcan Boll Weevil"

Weevil" tongs is likewise extremely simple. The tongs do not need to be held up to the pipe but are laid on top of it and the chain hooked around. To "make-up" pipe, tongs are slid forward so that the rear end of the jaws engages pipe and the handle is pushed down. For "breaking-out" tongs are pulled back to engage forward teeth with the pipe and the operator pulls up on the handle. Jaws are reversible, providing double life, and each chain is proof tested and certified. Four sizes accommodate pipe from ¾-inch to 12 inches.

▪ *Williams' "Vulcan" Chain Pipe Tongs*

This is the original "Vulcan" introduced by Williams about 35 years ago. It is made entirely from tough wrought

Vulcan Chain Pipe Tongs

steel and is fully guaranteed. Available in 9 sizes with either flat link or cable chain for pipe ⅛-inch to 18 inches.

▪ *"Vulcan Superior" Pipe and Fittings Tongs*

"Vulcan Superior" is a universal service tongs for both pipe and fittings. The "V" recess in the jaws insures quick and positive grip on fittings. The jaws also are reversible, providing double life. When teeth first

Superior Pipe and Fittings Tongs

in service wear, simply unscrew the bolt and turn the jaws end for end. All "Vulcan Superior" Chains are proof tested and certified. Tongs are available in seven sizes for pipe ⅛-inch to 12-inches. Extra chains for all patterns on Williams' Tongs are interchangeable size for size. This is a new Williams feature which simplifies replacement and reduces dealer's stock.

▪ *"Vulcan Superior" Chain Pipe Vise*

This vise has four distinctive features:

1. "Overhead" adjustment—the handle is on top where it is easy to operate.
2. Reversible jaws—when the teeth first in use wear, simply remove the screws and turn the jaws over.

Williams "Super Superior" Chain Pipe Vise

3. Larger capacity—each vise takes pipe ½-inch larger than other chain vises of similar size.
4. Supplied in two styles of finish—chrome-plated over nickel, and standard finish with orange panel in jaws. Made wholly of tough wrought steel with drop-forged base, jaws, handle and chain-arm. Fully guaranteed. Two sizes handle pipe ⅛-inch to 4½ inches.

The American Hammered Piston Ring Company

▪ *Piston Rings*

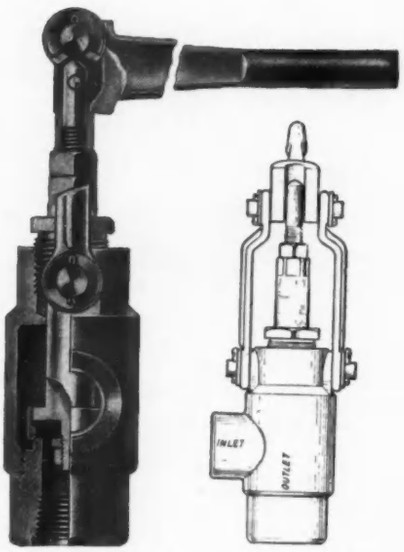
The American Hammered Piston Ring Company, Baltimore, Maryland, is exhibiting the latest types of piston rings and piston ring material.

The advance in piston rings in the last

American Hammered Piston Ring

year has been remarkable, chiefly due to the necessity of providing piston rings that will give long life and greater efficiency to the higher speeds, higher pressures and higher temperatures of the modern engines.

This RELEASE VALVE WILL SAVE YOU MONEY



American Release Valve

A PERFECT PERFORMER

The new American Release Valve is proving to be an outstanding performer in every oil field. On mud hog or slush pumps, where most stop cocks or relief valves cause trouble and expense, it has turned in consistently fine performance.

LESS TROUBLE AND EXPENSE

The American Release Valve is made with a piston, a rubber composition valve, and a steel seat. These features help eliminate trouble operators have had in the past. If the valve rubber wears out, you simply unscrew the bottom part of the release valve, replace composition rubber valve in retaining ring and resume use. The American Release Valve is so designed that cutting is practically eliminated. With this valve you speed up making your drill pipe connections.

TESTED TO 3000 POUNDS

The American Valve is tested to 3000 pounds before it leaves our shop. This insures you of always getting a release valve that will give "perfect performance."

AMERICAN PRODUCTS SOLD THROUGH LEADING SUPPLY STORES

American Fish Tail Bit
American Paraffin Bit
American Rock Bit Break-out Block
American Adjustable Rig Brace
American Automatic Cathead
American Hose Clamp
American Flexible Coupling
American Tie Down Companion Flange
American Drill Pipe Float Joint
American Casing Suspender and Blow-out Preventer
American Releasing and Circulating Overshot

American Wall Hook
American Combination Reverse and Throttle Lever

American Steam Lubricator
American Side Tracking Mills
American Female Die Nipple
American Flow Packer
American Shot Packed Barrel
American Milling Shoes
American Rock Bit Cone Fishing Socket
American Releasing and Circulating Spear
American Tapered Taps
American Release Valves for Mud Hog Pump
American Forged Steel Subs
American Myracle Sucker Rod Socket

NRA
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AMERICAN PETROLEUM
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ASSOCIATION

AMERICAN IRON & MACHINE WORKS CO.

HOUSTON, TEXAS
KILGORE, TEXAS

OKLAHOMA CITY,
OKLAHOMA

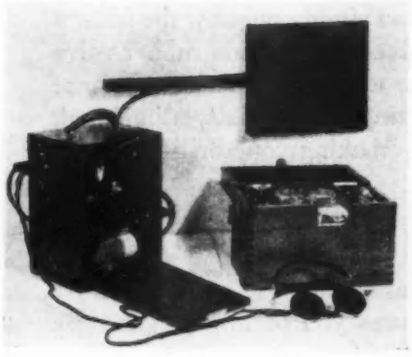
SEMINOLE,
OKLAHOMA

Crutcher-Rolfs-Cummings, Inc.

Crutcher-Rolfs-Cummings, Inc., Houston, Texas, specializing in pipe line equipment and materials, has an interesting exhibit. The company is sales distributors for all displayed equipment.

▪ *Underground Pipe Locator*

The underground pipe locator, manufactured by Utility Instrument Company, consists of a high frequency transmitter and a specially designed portable radio receiver operating with a selective directional loop antenna, which is used for the purpose of locating the desired pipe line. The pipe line and connections are excited by the transmitter, which transmits high frequency pulsations between two grounded points. The signal is heard by the operator when he is directly over the line, being picked up by the loop and in turn detected and amplified by the radio receiver.

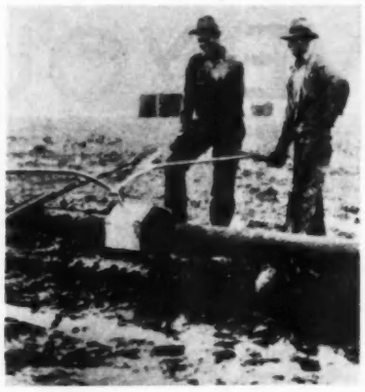


Underground Pipe Locator

This instrument is self-contained and readily portable, and functions without making contact to any part of a known line point in event service line connection is not available.

▪ *Pipe Cleaning Machine*

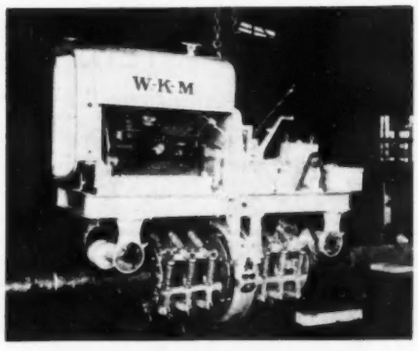
This pipe cleaning machine, manufactured by W-K-M Company, Inc., Houston, Texas, is designed for hand operation. Cleaning is accomplished by the use of patented cutter wheels, which produce a constant chipping action. It is compact, light, and instantly applied to or removed from pipe. A simple adjustment controls the tension on the pipe. Sections of pipe as short as 15 inches may be cleaned by a few easy strokes of the operating handles. Travel along the pipe is automatic, due to a unique arrangement of the cleaning elements. Changed from one size to another by the installation or removal of plate assembly.



W-K-M Pipe Cleaning Machine

▪ *Traveling Type Pipe Cleaning Machine*

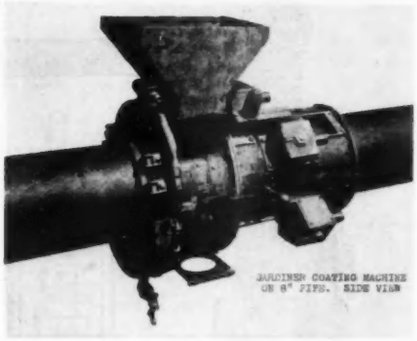
The new Model "B" W-K-M traveling type pipe cleaning machine is made for pipe sizes from three inches to 14 inches inclusive. It has double, revolving, cleaning heads, containing over 300 cutters, followed by steel wire brushes. The machine is placed on the pipe line and travels under its own power, cleaning two miles or more of pipe per day. It is quickly installed or removed and is designed to negotiate sags, overbends or sidebends.



W-K-M Traveling Type Pipe Cleaning Machine

▪ *Gardiner Pipe Coating Machine*

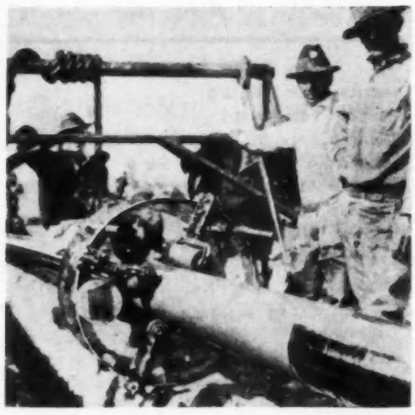
The Gardiner process of coating line pipe in the field is a combination of a dip followed by a hot iron. The Gardiner coating machine by which this process is carried out, is a split cylinder or collar that buckles around the pipe, the halves of the cylinder being connected along one side by a series of hinges and fastened along the other side by a suitable latch. The machine is divided into two compartments securely bolted together: a carriage that contains the wheel system by which it is supported on and translated along the pipe; and a material compartment a section of the pipe is submerged, and which trowels it on the pipe as the machine moves forward. In order to prevent the flow of coating material forward into the carriage with consequent plugging of the wheel system, these two compartments are sealed against each other by a flexible steel baffle. The machine is constructed to permit smooth passage over either weld or collar.



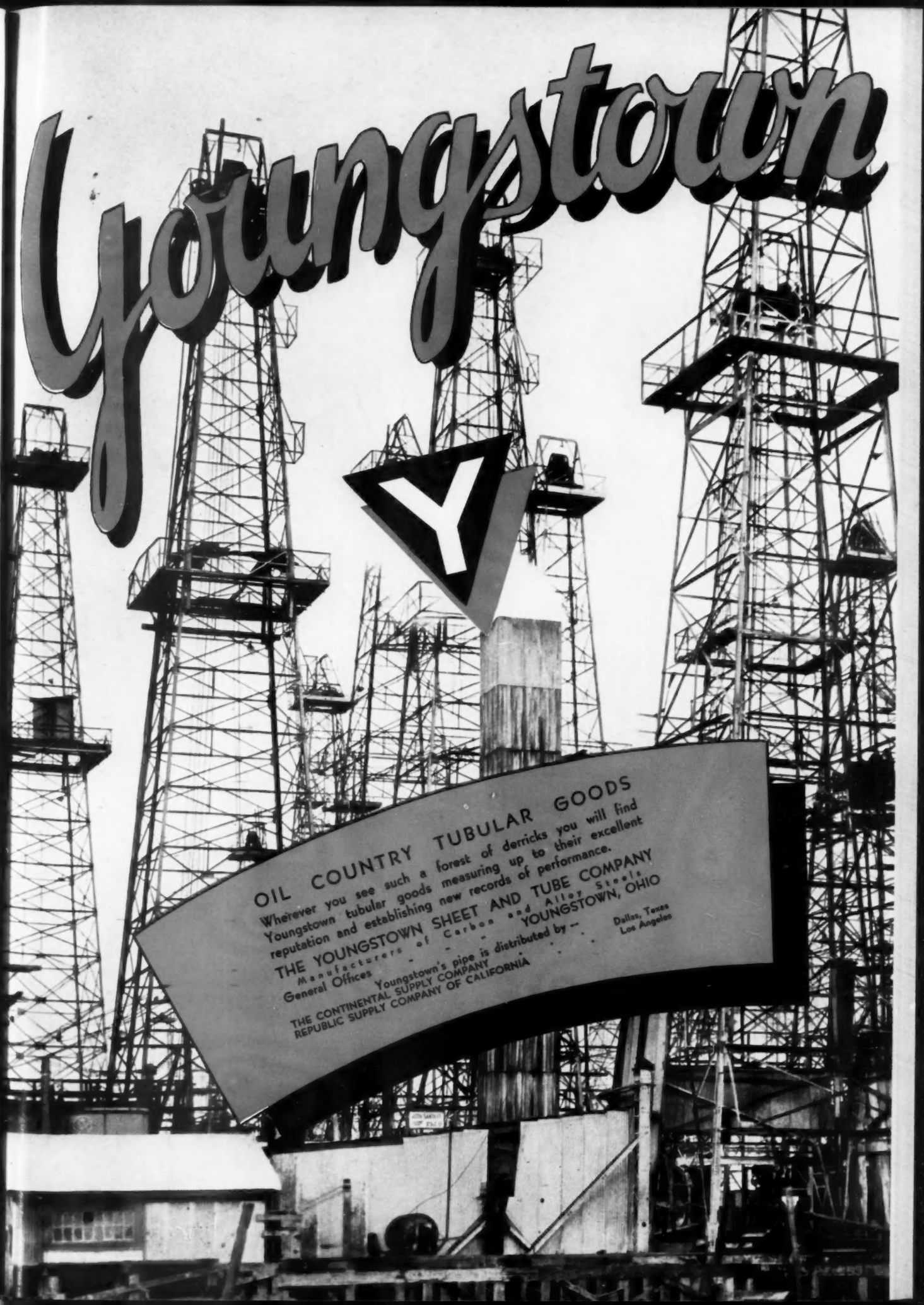
GARDINER COATING MACHINE ON 8" PIPE. SIDE VIEW

▪ *Field Wrapping Machine*

The Johns-Manville and W-K-M field wrapping machines consist of circular angle-frames carrying a roll of felt, the entire load being supported on spring mounted rubber rollers with ball bearings. These rollers serve the purposes of supporting the frame, determining the travel of the machine, and ironing out all wrinkles in the felt as it is wrapped on the pipe. They are located so that they ride only on the wrapped part of the pipe, without touching the bituminous coating ahead. The machine may be readily put on or taken off the line as the frame is split and hinged for disassembling. It weighs approximately 400 pounds complete and is operated easily by a two-man crew.



Rotary Type Johns-Manville and W-K-M Field Wrapping Machine


Youngstown
OIL COUNTRY TUBULAR GOODS
Wherever you see such a forest of derricks you will find Youngstown tubular goods measuring up to their excellent reputation and establishing new records of performance.
THE YOUNGSTOWN SHEET AND TUBE COMPANY
Manufacturers of Carbon and Alloy Steels
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REPUBLIC SUPPLY COMPANY OF CALIFORNIA Los Angeles

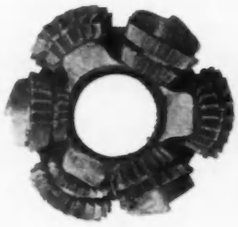
Hughes Automatic Type Core Bits

Hard Formation Cutter Head

Soft Formation Cutter Head

Hughes Type "C" Core Bits

In the Hole



Drilling Hard Formation Cutter Heads

Taking Core

Drilling Soft Formation Cutter Heads

Taking Core

inside against pump pressure. The vent is designed to secure high core recovery in soft oil sands, sticky shale, etc., and permits the mud pump to be run at best speed for removing cuttings, preventing bit from "balling up" and burning of core.

▪ *Hughes Automatic Type Core Bits*

The Hughes Automatic Core Bit is very similar to the Type "C" and most of the parts are interchangeable. The description of the Type "C" already given applies likewise to the Hughes Automatic Core Bit with the exception of the Automatic Body. This feature, instead of having a separate core catcher, has a mechanical core catcher (core catcher dogs) built into the body itself. The Automatic Body is made in two sections as will be noted in the illustration. When the bit is in operation, the weight of the drill stem holds the two sections tightly together and the smooth cylindrical bore offers no obstruction of any kind to "ball up" or bridge the core. When the bit is lifted, the weight of the bit head, core barrel and lower half of body causes body to telescope apart which makes core catcher dogs enter the core space. Force of pump pressure tending to push end off the drill stem can be used to help the weight of the parts to push the core catcher dogs into the core. It will be noted in the illustration "Taking Core" that the core catcher dogs almost close the opening which is a great advantage over the ordinary core catcher in such formations as soft oil sands, gummy shale and broken and brittle formations which are difficult to recover with a core bit which depends on the core itself to operate the core catcher.

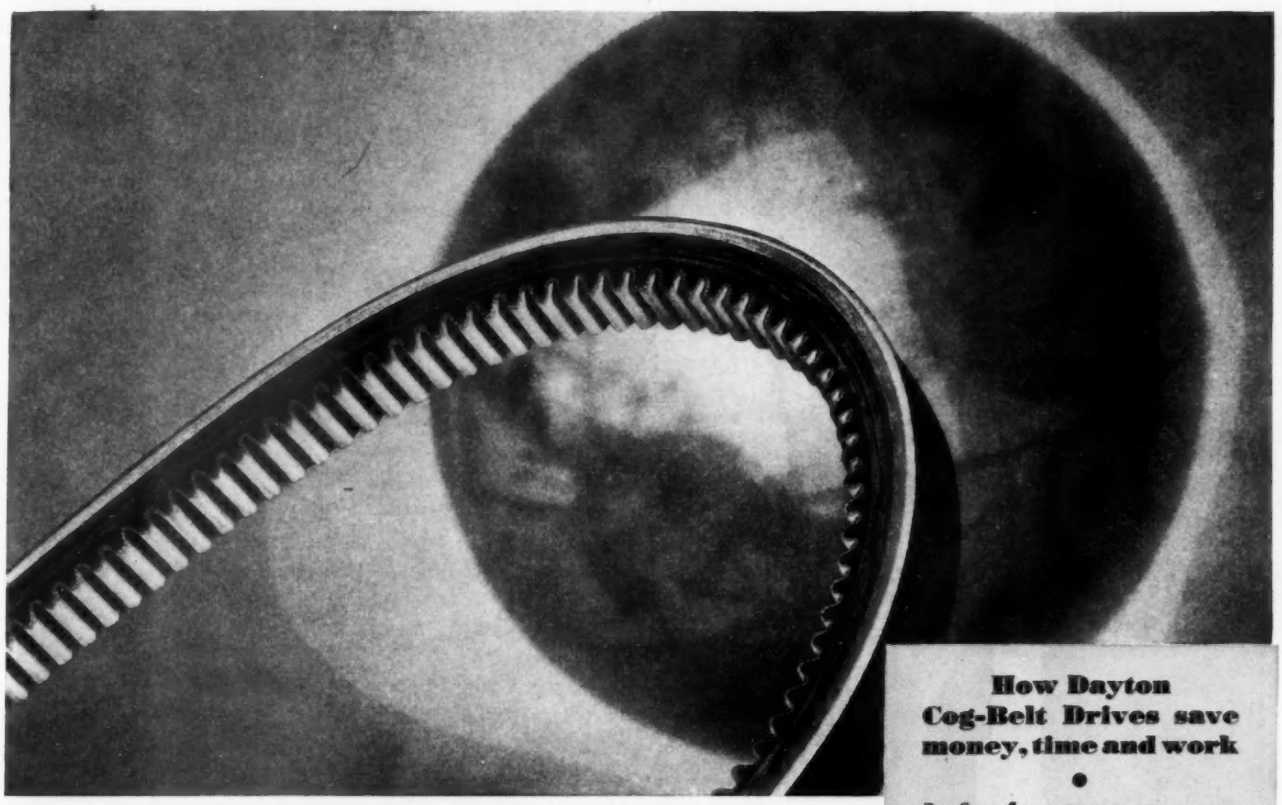
The only part of the Automatic Body which sustains any appreciable wear is the wear-plate at bottom of body just above the cutter head. This plate is bored for water courses and takes the cutting of the sand if any is present in the mud. The wear plate should easily make approximately 50 runs and is readily replaceable at the rig.

▪ *Hughes Tool Joints*

The manufacture of both the Hughes Regular-Hole and the Open-Hole "Streamline" Tool Joints includes three important steps—the selection and forging of only high grade alloy steel, the machining for accurate interchangeability, and the final heat-treatment which renders the steel strong, tough and wear-resisting.

The Hughes Open-Hole "Streamline" Tool Joint, having nominally the same inside diameter as the opening through the upset of medium weight drill pipe, avoids any sudden change in size of water-course through the drill stem and greatly reduces the pressure drop between the Kelly and the bit. Note the large opening obtained through the "Streamline" joint, yet

ONLY *ONE* V-BELT DRIVE IN THE WORLD LIKE THIS



Patented construction of Dayton Cog-Belts gives outstanding advantages

Here are some quick facts for quick reading about Dayton Cog-Belts—facts verified by leading engineers in a "thousand" different industries.

These Belts are utterly different from any other made. They're built to bend. The patented cog section and laminated construction enable Dayton Cog-Belts to flex naturally and easily around even the smallest pulleys—without distortion, buckling or rippling. This permits shorter center-to-center couplings and saves valuable floor space.

And since the sides are die-cut—not molded—Dayton Cog-Belts have greater gripping power at any speed. There's no slipping or sliding—less tension is required—and there's less wear on bearings.

Furthermore, the "stretch" is removed in the process of manufacture—adjustments are seldom necessary. And a patented reinforcement gives extreme crosswise rigidity which prevents squashing in the pulley grooves. *Thus the Dayton Cog-Belt is the only V-Belt combining maximum flexibility and crosswise rigidity.*

In addition to providing these numerous operating advantages these exclusive and patented construction features are responsible for the longer life of Dayton Cog-Belts—belt replacement costs are often cut in half.

These are only the high spots. Send for information—without cost or obligation.

THE DAYTON RUBBER MFG. CO.
DAYTON, OHIO.
Factory Distributors in Principal Cities and all Westinghouse Electric and Manufacturing Company Sales Offices

How Dayton Cog-Belt Drives save money, time and work

1—Save floor space.
2—Built-to-bend—no distortion—no internal heating.
3—Greater gripping power—no slipping or sliding.
4—Stretch removed—fewer adjustments necessary.
5—No dressing or lubrication.
6—Less tension required—easy on bearings.
7—Longer life—belt replacement costs often cut in half.
8—Quiet—Clean—Rugged.

Complete drives—pulleys and belts—in stock. Fractional to 100 H. P.

Investigate the exceptionally low cost of Dayton Cog-Belts with

DAY-STEEL PULLEYS

Built to Bend

Dayton

COG-BELT DRIVES

Also manufacturers of Dayton Fan Belts . . . Dayton Red Tube Radiator Hose . . . and the famous Dayton Thorobred Tires and Tubes

Hughes Regular Hole Tool Joint and Hughes Open-Hole "Stream-Line" Tool Joint. (Furnished with either "Acme" or A.P.I. Thread.)

retaining sufficient metal in both box and pin to insure a connection of maximum strength. The unrestricted "Streamline" flow through the tool joint permits full volume of mud fluid to the drill bit at high pressure and contributes to greater bit efficiency, faster drilling and lower pumping costs.

▪ *Hughes Drill Collars*

Hughes Drill Collars are forged from alloy steel of the same quality as used in Hughes Tool Joints and given similar heat treatment to secure toughness and maximum strength. Every drill collar must be accurately bored and machined. Illustration shows view "looking-through" one of Hughes 20-foot drill collars.

Hughes Drill Collars are manufactured to specifications, in lengths up to 20 feet.

Unretouched photograph showing accuracy and alignment of bore in 20-foot Hughes Drill Collar.

▪ *Hughes Valves and Fittings*

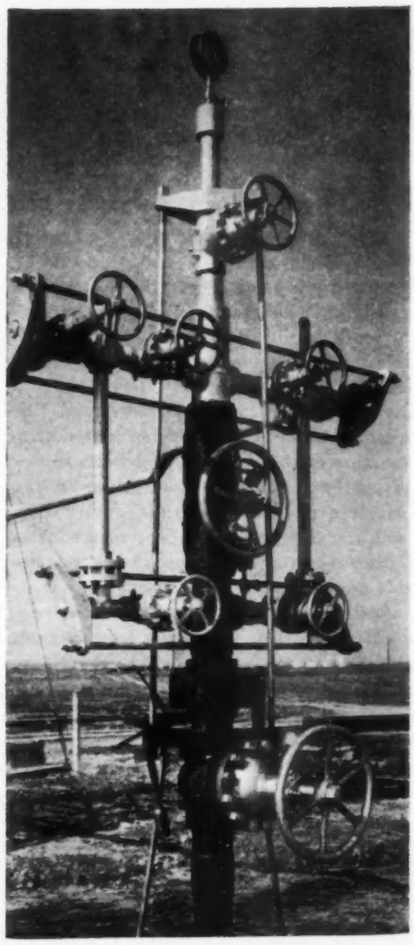
Hughes Tool Company is exhibiting a completely assembled Christmas tree hook-up which has been quarter-sectioned in order to show detailed construction and improved features of its drilling valves, manifold valves, fittings, the Hughes (Brown) safety tubing head, adjustable flow beans, etc.

Hughes valves and fittings have been used extensively throughout the oil fields for years and operators are familiar with their performance.

▪ *Hughes (Brown) Safety Tubing Head*

Hughes (Brown) Safety Tubing Head provides a safe means of parting the tubing so flow may be diverted through the casing outlets, or in case of emergency to permit prompt closure of the master valve, cutting off the flow entirely.

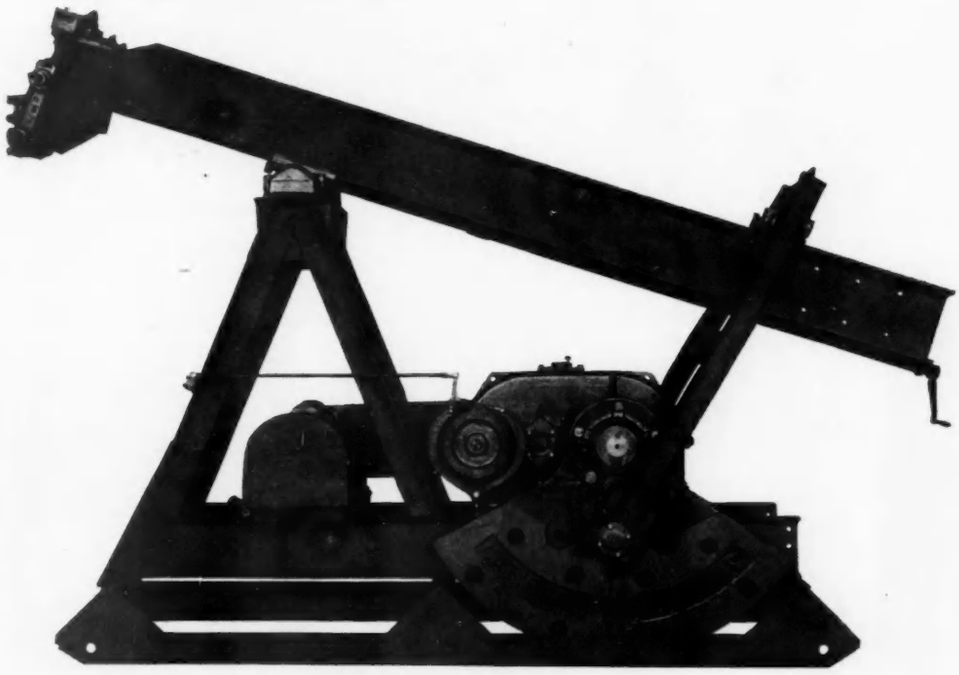
The complete unit is made up of: the hanger, which supports the tubing just below the master gate; and the head which includes the casing and tubing outlet crosses, and the retracting stem which virtually parts the tubing within the mas-



Right: Christmas Tree Hook-up, showing Hughes Valves and Fittings, Adjustable Flow Beans, and Hughes (Brown) Safety Tubing Head.

Below: Hughes 20-foot Drill Collar.

NATIONAL
PUMPING UNIT
TYPE SW-130



A Complete, Compact, Self-Contained Pumping Unit of Modern Design and Rugged Construction, and Adaptable to any Type of Prime Mover.

FEATURES OF CONSTRUCTION:

- V-BELT DRIVE
- SERVICE BRAKE
- ROLLER BEARINGS
- WELDED STEEL FRAME
- TWIN COUNTERWEIGHTED CRANKS
- DOUBLE PITMAN
- RETRACTOR BEAM
- OIL-TIGHT GEAR CASE
- DOUBLE REDUCTION GEAR
- TWO-WELL PUMPING ATTACHMENT

Bulletin No. 332-A free on request

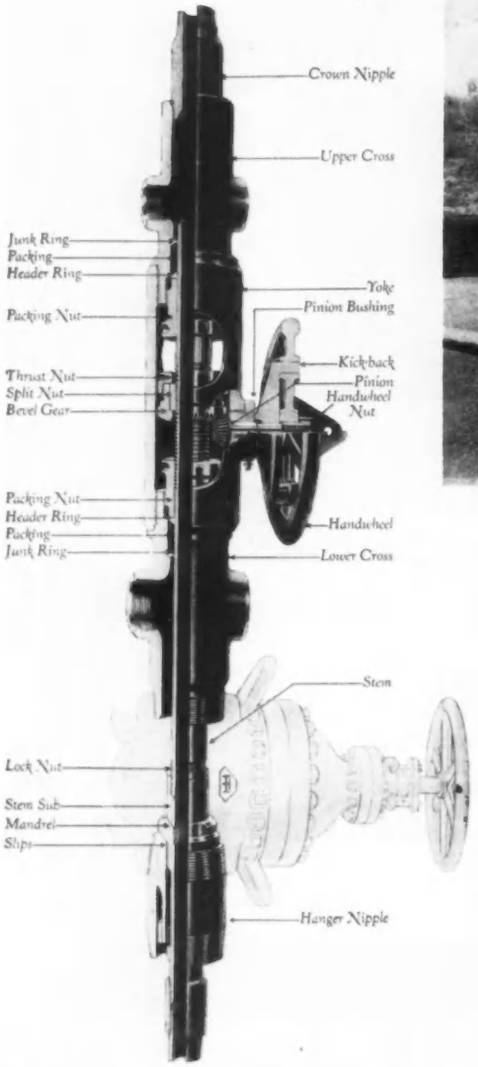
THE NATIONAL SUPPLY COMPANIES

ter valve, permitting full operation of the valve gate.

Two types of hangers are available. Where a valve the same size as the casing is used, the standard collapsible hanger is furnished. This hanger consists of a specially designed set of slips that may be contracted to pass the restricted diameters of the valve runs but spring back to full diameter as soon as they reach the seating position on the upper end of the accurately machined hanger nipple, immediately below the master gate. A heat-treated hollow steel mandrel supports the tubing and locks the slips in place. In setting position the mandrel is held in a raised position relative to the slips by small lugs operating in "J" slots, permitting the slips to spring together around the slightly recessed mandrel. As soon as the slips reach their seat they expand to normal size; the mandrel is rotated a quarter turn to the right and lowered approximately one inch, locking the slips.

Where an over-size valve is permissible, a "solid-type" hanger may be used. This consists simply of a shouldered steel block with opposite quarters machined away, which screws directly on the tubing and seats directly on the upper end of the hanger-nipple.

The upper part of the unit incorporates the cross that provides for flow from the annular space between the casing and tubing; and the hollow stem which operates through a stuffing box in this cross, its lower end mating with a tapered seat in the upper end of the hanger just below the gate of the master valve. Interchangeable stem subs and mandrals adapt the head for use with various makes and designs of valves. The upper end of the stem operates through another stuffing box into the tubing outlet cross. This cross has a tapered seat in the top outlet, against which the upper end of the stem may be raised, shutting off the side outlets if desired. Meanwhile the flow may be taken off through the casing outlets or the tubing crown outlet, or master gate may be closed to effect a complete shut-off.

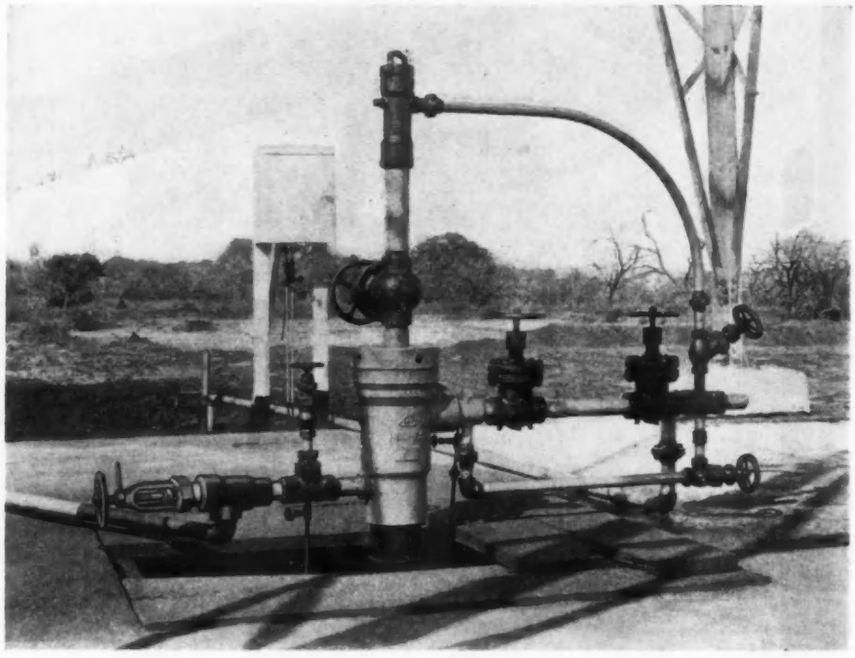


Hughes (Brown) Safety Tubing Head. (Showing construction details which permit full operation of Master Gate after well has been tubed.)

The stem is operated by a geared handwheel, with a built-in jar or kick-back, which imparts a hammer-like blow to insure a perfect seat at either end. Handwheel is also equipped with a universal joint arrangement for remote control. The stem and crown nipple have the full inside diameter of the tubing to provide ample clearance for swabbing.

▪ *Hughes Plunger Lift*

The Hughes plunger lift is an apparatus adapted to produce oil from deep wells, using only the energy of the gas associated with the oil, or supplying additional gas where required.



Field installation of Hughes Plunger Lift

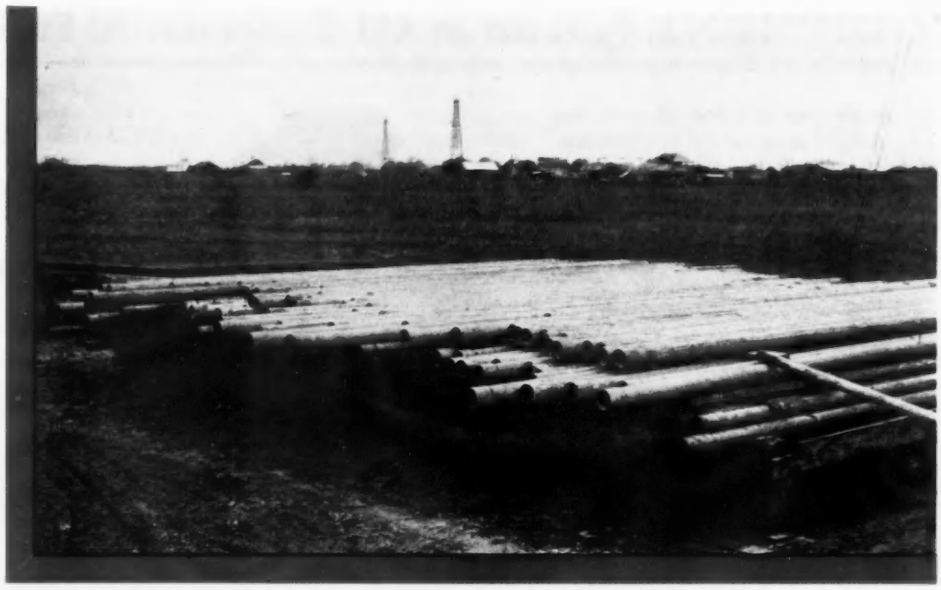
The equipment consists essentially of a string of special smooth bore tubing in which an all metal plunger travels the entire distance from top to bottom of the tubing and back to the top each stroke.

This tubing is supported from a flow head at the surface adapted to receive the slug of oil lifted by the plunger and direct it to the flow lines, and is fitted at the lower end with a foot-piece to stop the plunger and close the plunger valve at the end of the down stroke.

The plunger is a rather loose fit in the tubing and is "free," that is, falls by gravity alone, and is raised by gas pressure without the use of sucker rods or cable.

The tubing does not support the weight of the oil lifted but hangs under its own

Here's the 5400' of Casing →



. . . from an 8400' Well at Buckeye, Texas

Here's the Tool ↓

Seven Patents, with others still pending.

ABERCROMBIE

Call or Wire the Service Crews that are always ready to go on any job anywhere.

RED BALL SERVICE

The above job is just one example . . . one of the many Abercrombie Pipe Recovery Jobs . . . whether Inside or Outside Cuts . . . being done regularly throughout the oil country. Acquisition late in 1933 of all rights in the U. S. of the CUT and PULL Tool shown here has given Abercrombie's RED BALL Cutting Service the same prestige on Inside recovery jobs it has enjoyed for years on Outside jobs.

Your pipe is now cut and pulled on the same trip, saving time and money for the operator. Numerous cuts can be made in a single trip in the hole, and all of these cuts pulled at the same time. Your recovered pipe is in good condition, and the hole is left clean!

Ask for full particulars on this cutting service, and the costs, which are reasonable.

J. S. Abercrombie Co.
21ST FLOOR GULF BLDG.
HOUSTON - TEXAS

RED BALL CUTTING SERVICE

dead weight, the oil carried out each stroke being supported by gas pressure. Note particularly that the plunger does not lift a column of oil extending the full length of the tubing, but produces the fluid in short heads, usually not over 300 feet at a stroke.

A number of advantages listed by the manufacturers of this equipment are: no high pressures required; no close fits to be damaged by wear; tubing carries its own dead weight only, avoiding corrosion fatigue, and collar and casing wear; crooked hole does not affect operation; sand troubles are minimized as complete discharge of the entire contents of the tubing occurs each stroke; gas does not affect volumetric efficiency; paraffin is scraped from the tubing continuously by a special plunger when required; plunger replacement can be effected in less than five minutes; pumping level is definitely known from the depth of the foot-piece, and the volume of fluid discharged each stroke; production can be regulated for proration purposes by regulating depth of foot-piece and choking tubing inlet and discharge, making the outfit desirable for flowing wells that quit when beaned severely; 100 percent salvage, as there are no foundations; initial cost less than that of a standard rig for all wells except very shallow ones; wells of great depth can be pumped where sucker rods fail; the well will often operate with plunger lift on well gas alone, long after natural flow has ceased, and when well gas falls off, additional gas supplied to casing will maintain operation without any other changes; a large group of wells can be operated from a central compressor station, reducing installation and maintenance costs, and insuring more reliable performance.

E. D. Bullard Company

▪ *Gas Masks*

E. D. Bullard Company, San Francisco, California, is exhibiting a complete line of gas masks for protection from fumes and for oxygen deficiencies. Included in this line are Bullard canister masks, together with canisters built to give protection from specific gases. These masks are portable and efficient, and generally used in the oil industry.

The Bullard hose mask on display is approved by the U. S. Bureau of Mines and the American Gas Association. The hose-type mask is a safe, complete protection in high gas concentrations or oxygen deficiencies.

All Bullard masks are equipped with the Bullard one-piece, molded facepiece,

Bullard Gas Mask

which is molded to the contour of the face, comfortable to wear and gives complete protection.

▪ *Cylindrical First Aid Kits*

The Bullard cylindrical first aid kit, contains unit packages of first aid treatments and dressings. The contents of this kit have been selected by leading industrial surgeons. Special assortments of unit dressings and treatments, however, may be obtained on order.

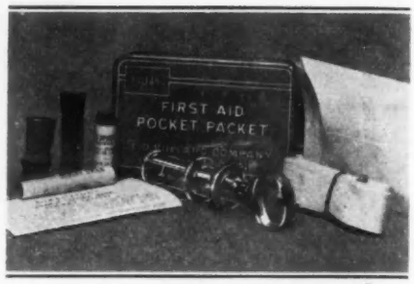
Unit packages are carried in a canvas

roll-up, that is released by flipping the clip on the cylindrical container. The roll-up can be conveniently carried to the point of injury, and it may be slung over the arm of the person giving the first aid treatment without impairing the use of his two hands.

▪ *Venex Snake Bite Outfit*

The Venex snake bite pocket packet contains a glass suction syringe for extracting venom from the bite, together with a complete set of necessary material for opening and treating the wound. All this material is in conformity with the best medical advice for first aid treatment of snake bites, and the complete equipment is contained in a sealed, metal case, small enough to fit into a pocket.

Venex snake bite pocket packets have been adopted as standard equipment by a number of organizations operating con-



Venex Snake Bite Pocket Packet

struction and maintenance crews, and individual packets are used by prospectors, sportsmen, and others frequenting snake country.

▪ *Goggles*

E. D. Bullard Company is showing a complete line of goggles manufactured by Willson. This old, established line has been constantly improved to provide the finest and most efficient types of eye protection to industry. Included among the goggles displayed are several especially adapted to the petroleum industry.

▪ *Respirators*

The company is displaying a line of respirators suited for all requirements of the petroleum industry. These respirators include efficient and economical features in line with present necessity of operating safely yet economically.

▪ *First Aid Materials*

General first aid treatments, dressings and other similar materials of the E. D. Bullard Company, includes first aid kits, fitted either with bulk or unit system dressings, roll-ups, pocket first aid packets, stretchers, triangular bandages, splints, compress bandages, and the hundreds of additional items falling under this general classification.

Southwestern Can Company, Inc.

▪ *Oil and Grease Containers*

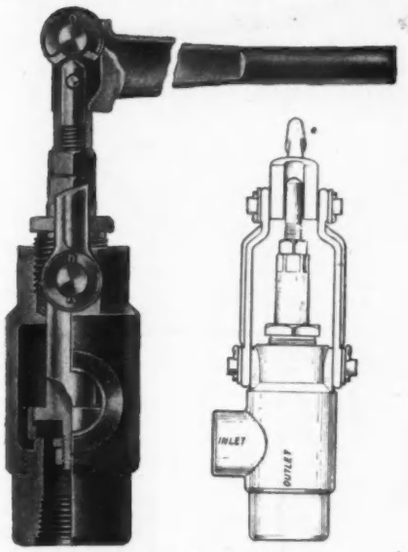
Southwestern Can Company, Inc., Houston, Texas, has a complete exhibit of oil and grease containers, plain and lithographed, as used by lubricating oil manufacturers. The display consists of various sizes and styles of containers.

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

American Iron & Machine Works Company

▪ *American Release Valve*

The latest product of American Iron & Machine Works Company, Oklahoma City, Oklahoma, is the American release valve, and is among its items on display. It is made with a piston and rubber composition valve and steel seat that does not have to be brought into a shop to be



American Release Valve

worked over. If the valve comes off, the bottom part is replaced and composition rubber valve replaced in retaining ring. The American release valve is designed so that cutting is practically eliminated.

▪ *American Breakout Block*

This block is made to set in the master bushing after pulling kelly bushings, which saves changing slips in the tongs and wear on side reamers. The tightest joint can be broken with the

Break-Out Block

American breakout block, such as to break rock bit from drill collar. As the bottom is completely closed, except for small holes to drain water through, it keeps wrenches or other small tools from falling into the hole.

▪ *American Cone Fishing Socket*

Rock Bit Cone Fishing Socket

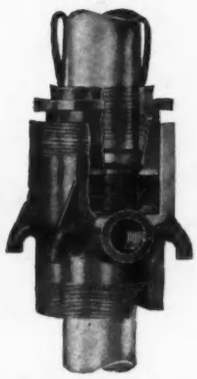
This tool is made to catch worn or broken cones that cannot be caught with the cone fishing basket, which is made from a piece of pipe. The American cone fishing socket is made with slips placed in the bowl on a taper, bottom milled to cut any shale or boulder away and core ahead, forcing cones into the slips.

▪ *American Milling Shoes*

American milling shoes, type E, type F and type D, are made to run on the bottom of the American overshot. The type F milling shoe is used where pipe or tool joint is broken off, leaving a rough edge. The type F milling shoe is to mill out junk that might be on outside of fish, or to wash over fish in case of tight hole. Where the pipe is in a cavity and wall hook cannot straighten it. American Iron milling shoes can be run on bottom of overshot to mill over the pipe and at the same time overshot will take hold of the fish.

▪ *Casing Suspender and Blowout Preventer*

This device was developed for use in fields where high pressure is a hazard and where there are more than one oil sand. It is possible to suspend casing at any point in the hole, as lips are full circle and do not cause a crimping, or egg shape, place in casing. Packing consists of three rings of composition packing that is tested for salt water and other ingredients encountered in different oil fields. Fireproof packing is furnished on order.



American Casing Suspender and Blowout Preventer

The American casing suspender and blowout preventer has four tie down lugs cast on the sides to be used with the American tie down flange, or other methods of tieing down. It is tested to 5000 pounds.

▪ *American Flexible Coupling for Rock Bit Lubricators*

Quite often vibration breaks lubricators off just above the rock bit cage. The American flexible coupling for rock bit lubricators was developed to prevent this trouble. One end fits on lubricator and the other on a rock bit cage.

Flexible Coupling

It is made with packing on stem and on dished cup which prevents fluid from cutting, also flexible enough to take care of any vibration. There is a hole in the cup to screw in any plug for regulating crater compound.

▪ *American Female Die Nipples*

Quite often a drill stem is broken off where the overshot cannot take hold and the die nipple is then run to take hold. This die nipple is made in steps to take hold of pipe, coupling or tool joint. It is made with either tool box or drill pipe connection on top.

Releasing and Circulating Spear

Female Die Nipple

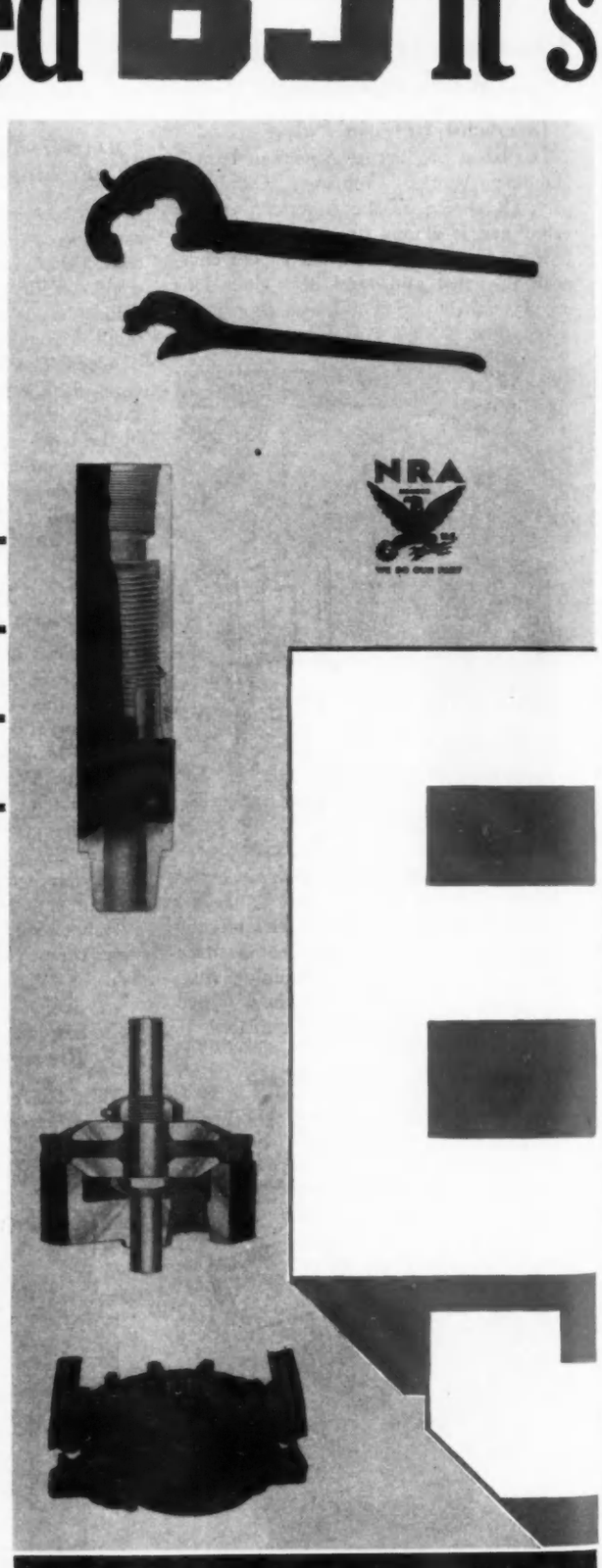
▪ *American Releasing and Circulating Spear*

This spear, made so as to pack off inside of broken drill pipe or casing, will withstand any amount of pressure and, if circulation can be broken through the fish. It is made with a hollow stem for circulation and with a one piece slip that expands by pulling up on drill stem when hold of fish. In case the fish cannot be pulled, just turn drill stem to right and slips pull away from mandrel and then come on out of hole. Set the slips to the

If it's Marked BJ It's a

BJ Snapon Tubing Tongs for "heavy-duty" service. Snaps on and completely encircles the tubing, and locks in place automatically. Handles tubing from 1¼" to 4" and matching coupling sizes.

BJ Open End Tubing Tongs — a light weight "stab-on" tong, which stands on the tubing and ratchets perfectly. The 2½" size weighs only 14 pounds, but correct design provides exceptional strength.



GOOD because honest Value, Safety and Efficiency are built into each tool before the BJ goes on!

BJ Safety Joint, for *drilling* or *fishing* — provides a positive method of breaking the string at any desired point. Is run near bottom when drilling in caving formation; or just below the kelly when danger from gas is present.

BJ Slush Pump Valve — with a shock-absorbing rubber insert to secure a leakproof seal. The assembly moves on the stem to cushion the impact. Complete reversibility assures double wear and maximum efficiency.

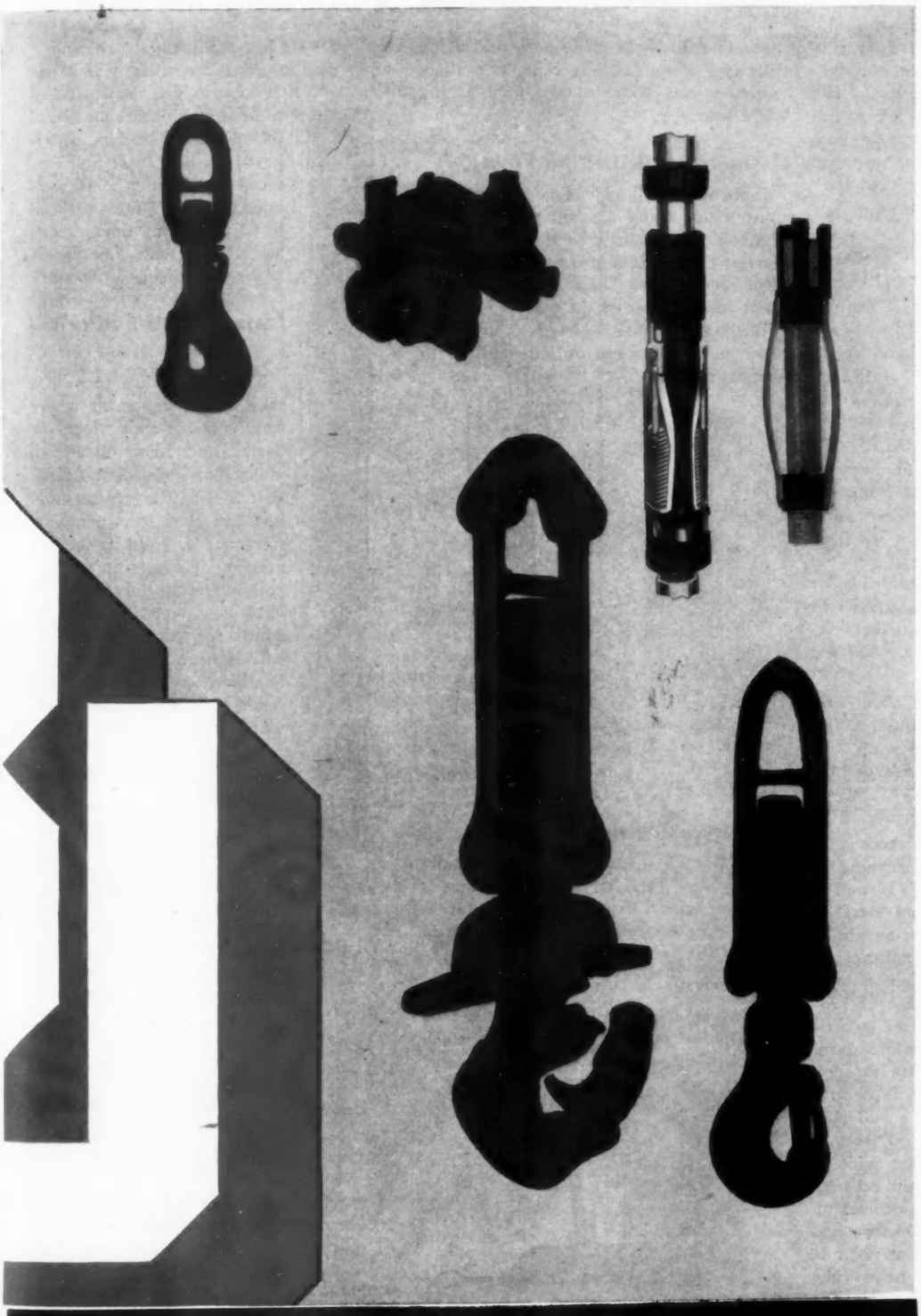
BJ Side-Door Slip Elevator, with four slips which are automatically, uniformly set by the casing collar or external upset, or may be set wherever desired by a setting lever. The side-door permits removal while cement is setting.

BJ Catalogs and detailed specifications are available, free upon request. You should keep a copy in your files for complete information on equipment to bring your operations up-to-date with safe, fast BJ Tools.

BYRON

FORT WORTH

a Good Tool to buy...



BJ Rod Hooks, with the safe locking-arm which guides the hook into the elevator bail and then locks to transform the hook into a C-link. Made in three sizes for 10, 15 or 20-ton strings of rods.

BJ Rod Elevators are operated from either front or rear. The one-piece, heat-treated body withstands the impact of long heavy strings of rods. Made in light and heavy types. Each elevator handles two sizes of rods.

BJ Surestop Tubing Catcher runs in easily due to large fluid passageways. Large-area slips set quickly and positively without damage to casing. Diagonally-cut teeth release readily. Affords *real tubing safety*.

BJ Anchor — used to set the Surestop Tubing Catcher at any desired depth. A stationary pump takes a full stroke and increases production. Anchoring stops collar wear and saves expensive pulling jobs.

BJ Triplex Hooks have one hook for the swivel bail and one hook for each elevator link — all with the safe, new BJ Locking Arm. Made in two sizes for 150 or 300-ton loads, to meet all drilling requirements.

Tubing Hooks—made in three sizes for 30, 50 or 75-ton strings of tubing. Equipped with the new BJ Locking Arm which provides a C-link action, with greater strength than is possible in open type hooks.

JACKSON CO.

LOS ANGELES • NEW YORK

American Flow Packer

inside diameter of fish to be caught, as the split slip allows same to contract when going into pipe.

This type spear is also popular for catching tubing, as it does not egg-shape pipe, due to the fact that the slips are a full circle. The American Iron spear can be pulled from pipe on the derrick floor.

▪ *American Flowing and Pumping Packer*

This packer is run on tubing and is designed to allow fluid to pass through packer while running and does not have to be snubbed in, due to the equalizing of pressure. It has a tapered cut that seals to the wall of casing from absorption of fluid and pressure. In running, if the well is flowing or flows by heads, use a tubing oil saver, in that way flow can be diverted through casing to tanks.

When ready to set, a bolt about one inch by two feet long is dropped down tubing to break disc that holds up "A" valves, and then all oil on outside of tubing will drain back through "A" valves and leave outside of tubing dry.

When packer is to be pulled, there is no oil to combat, no mechanical appliances on packer to sand or corrode up. If well is about to be pumped, a common barrel is run below packer, run rods in and hook on the pump. This has, in most cases, allowed well to be pumped a few minutes and then they will flow balance of production. The well may be flowed by artificial pressure by forcing pressure down inside of casing and returning through "A" valve. It is suggested that a bull plug be placed on bottom joint and that joint be perforated and set near oil sand. Gas comes up through "B" valves and meets fluid at point in tubing and helps flow the well.

American Forged Steel Sub

▪ *American Forged Steel Subs*

These subs are made in three types. Type G and H to be used with overshot to connect from casing to tool joint. Type K is used for connecting up different sizes of pipe. American Iron and Machine Works Company also make subs for kellys and other connections that might be made on a drill stem. The type H sub is long enough to allow elevators and slips to take hold at the same time.

▪ *American Drill Pipe Float*

This is a drill pipe float designed to run in the string of drill pipe to break the fall of pipe, in case the pipe should part or break. It is also used for floating drill pipe into the hole. The American float is made so that the assembly can be milled out in case of stuck string, and then go down to top of fish and try to circulate.

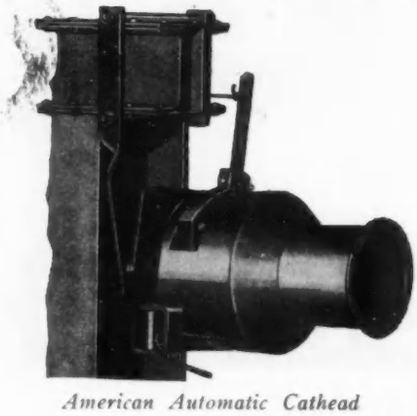
Left: American Drill Pipe Float *Right: American Steam Lubricator*

▪ *American Steam Lubricator*

The American steam lubricator is made in 12 gallon size. It lubricates both engine and pump from one point. It is placed on the steam line near the boilers.

▪ *American Automatic Cathead*

The American automatic cathead is composed of only nine parts, five of which are working parts. These parts are made



American Automatic Cathead

of the best material obtainable to withstand hard usage.

The cathead has four point contact, that is, it takes hold on quarter turn of shaft and releases on complete revolution of the shaft. It has a 36-inch stroke, and if tongs are in good condition, will break joint with first contact. The spool is bored to fit any size shaft up to and including 7½ inches. It is keyed on line shaft and fastened over header board with brackets, that allows cathead to be pulled any time, or can be moved with line shaft without removing from same.

Shot Packed Pump

▪ *American Shot Packed Barrel*

This barrel has proved a time and money saver where sand cuts out cups. Run the barrel on tubing then run plunger on rods, pour a little shot down the tubing and hook on, then start pumping. Afterwards, add shot as needed. There is no need to pull tubing to service barrel until new liners have to be added. A great many of these barrels have been in wells in Seminole and West Texas fields for two or more years without pulling.

▪ *American Side Tracking Mills*

American side tracking mills are made of fine grade steel. They are used where a whipstock has been run and where milling through pipe or casing is desired. They may also be used on collar that catches splinter of casing that is milled out, thereby bringing splinter out and not having to mill same up after the job is completed.

▪ *American Myracle Sucker Rod Socket*

Made with die nipple effect to catch pin that might be broken off in box or in upset. It also has slips to catch size sucker rod that is in use in different sizes of tubing.

▪ *Releasing and Circulating Overshot*

The American releasing and circulating overshot takes hold of fish, drill pipe or tool joint, and the rubber packer fits tight against fish, thereby allowing circulation through the bit, if it is possible to get

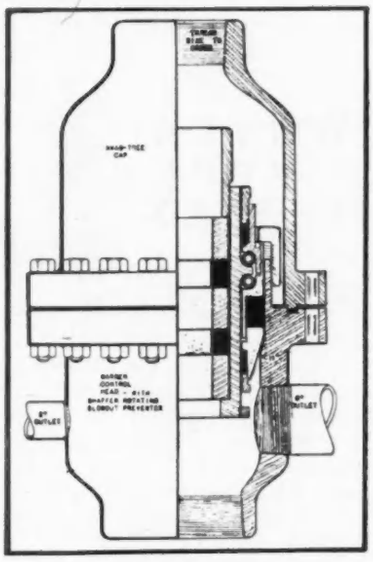
SEE THIS SHAFFER

Safety First and High Pressure Equipment*

AT THE HOUSTON OIL SHOW—Booth No. 205-207

SHAFFER ROTATING BLOWOUT PREVENTER

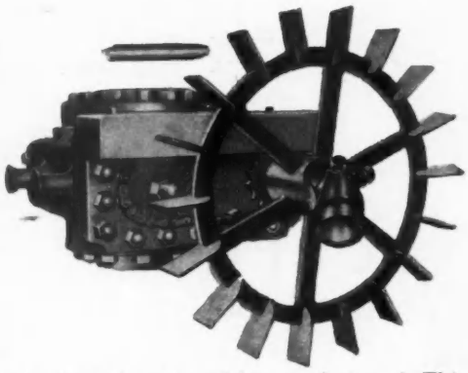
The Shaffer Rotating Blow-Out Preventer consists of a steel bowl in which is a complete packing assembly that is held in place with a bonnet. This assembly provides for packing either around the grief stem or around the drill pipe; and both types may be furnished with each preventer.



The essential part of the assembly is a long sleeve which rotates within the packer and which is carried on two sets of ball bearings to eliminate friction. Inside this are steel bushings and rings of oil-resisting rubber packing that are shaped to fit a particular sized Kelley or pipe. These prevent leakage as they revolve with the Kelley or pipe.

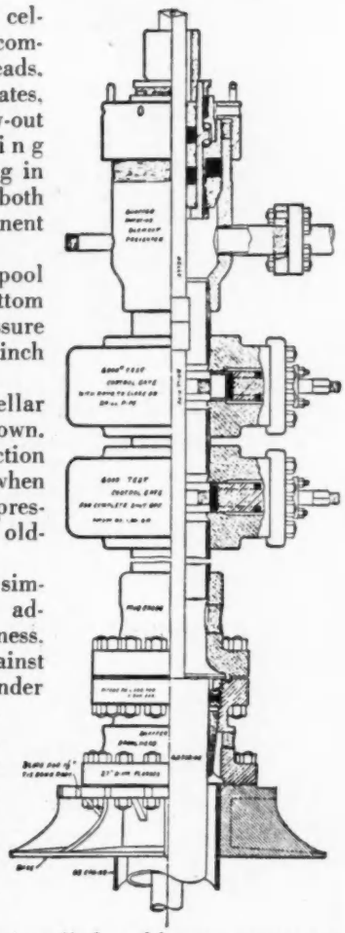
Complete protection is provided when the well is drilling.

SHAFFER CELLAR CONTROL GATE WITH POWER ATTACHMENT



Operators are now offered a power attachment for the Shaffer Cellar Control Gate. Power is applied to the paddles by means of steam jets causing the wheel to rotate with sufficient force to close the rams against the pipe with a perfect seal. This attachment may be mounted directly on the operating screws or on the lazy rod at some distance from the derrick. The Shaffer Cellar Control Gate is universally used as a safety measure in drilling wells in high pressure fields of the world. You can't afford to risk a catastrophe. Write to High Pressure Headquarters, Shaffer's for further information.

SHAFFER HIGH PRESSURE DRILLING HOOK-UP



This high-pressure cellar assembly, with its combination of casing heads, mud cross, control gates, over-flow vent, blow-out preventer and capping connection for bringing in the well, provides both emergency and permanent protection.

Flanged onto the Spool type heads at the bottom is a Shaffer high-pressure mud cross with four-inch and two-inch outlets.

A pair of Shaffer Cellar Control Gates are shown. One provides protection "out of the hole" when there is no drill-pipe present, and replaces the old-style drilling valve.

The upper gate is similar, with the same advantages of compactness, ability to close against leaks and operate under pressure, giving dependable protection "in the hole." Both gates are used with Shaffer Universal joint connections, giving remote control from any place outside the derrick.

Above the gates is installed a blowout preventer with the Shaffer Rotating Packing Assembly. This assembly packs off and revolves with the Kelly, thus giving protection while drilling. When pulling drill pipe the stationary packing assembly may be used in connection with the gates.

The Warren flanged Christmas-tree cap may be used as another safety feature of this hook-up.

Below the mudcross the cut shows our Spool Type Landing Heads. This demonstrates how conveniently the whole high pressure hook-up may be installed.

We manufacture a complete line of Casing Heads, Tubing Heads and Flow Beans. Write for 1934 Catalogue.

SHAFFER TOOL WORKS

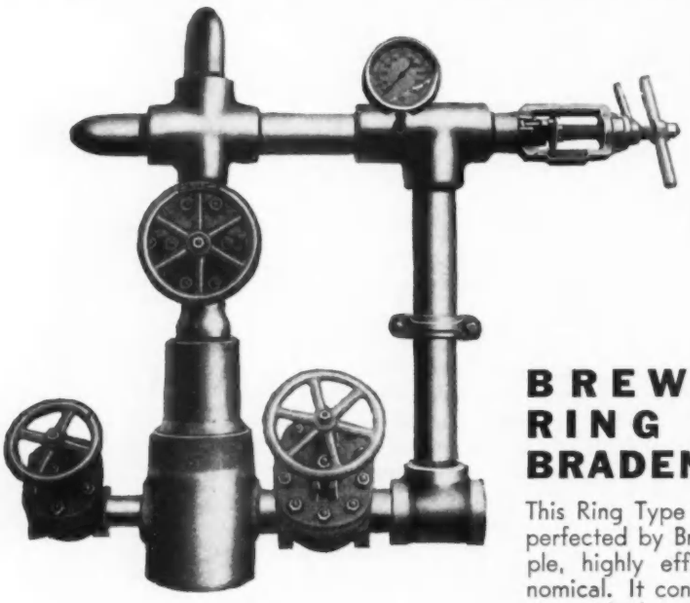
Brea **California**

***Mid-Continent*—Shaffer Tool Works, Houston, Texas**

***Rocky Mountains*—Great Northern Tool & Supply Co., Billings, Montana.**

***Foreign*—Oil Well Supply Company**

BREWSTER Well Control ASSEMBLY



■ We loan you the tubing slips and blow-out preventer to run your tubing when you buy the Brewster Control Assembly. Extremely low price on the Assembly. Tested at 1000 pounds pressure, assembled, ready to connect to your casing. You disturb only one coupling and the Victaulic coupling. (See illustration). This Brewster Well Control Assembly gives you complete control with the master gate valve wide open to prevent sand cutting. Adjustable Flow Bean controls the flow of well. See this Brewster Assembly at our Longview Store or write our Shreveport office.

The BREWSTER CO.
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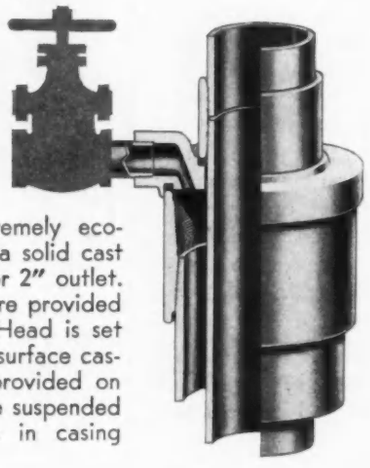
●

Shreveport, La. and Branches

BREWSTER RING TYPE BRADEN HEAD



This Ring Type Braden Head, perfected by Brewster, is simple, highly efficient and extremely economical. It consists merely of a solid cast ring with threaded aperture for 2" outlet. A guide and packing groove are provided on the under side where the Head is set down on the top collar of the surfaces casing, and a packing guide is provided on top to receive the collar of the suspended casing. A real forward step in casing heads, and a big saving.

½ ROUND CARBOLITE INSERTS

No. 1 *No. 2* *No. 3*

FLAT CARBOLITE INSERTS

No. 1 *No. 2* *No. 3*

Crushed CARBOLITE in 15 inch TUBES
Screen Size
No. 1
No. 2
No. 3

Screen Sizes
No. 00
No. 0
No. 1
Crushed CARBOLITE in 15 inch DEPOSIT RODS

TOUGH STUFF

CARBOLITE is a tungsten carbide metal that is not only as hard as metals ever get to be, but also extremely tough. The finest known material for dressing drag bits. Why pay more for other so-called "Hard" metals?

CARBOLITE

HARD *Tungsten* *Carbide* METAL

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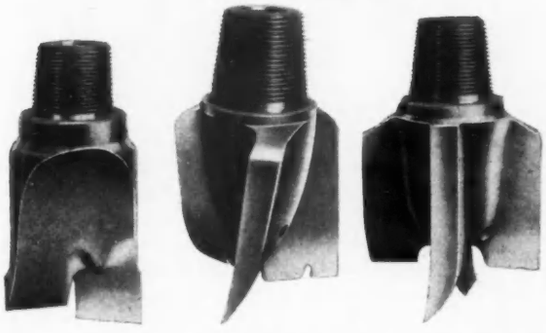
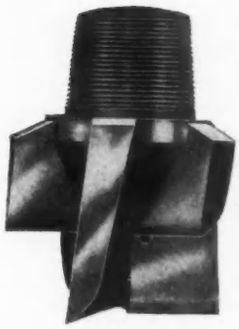
CORE BARREL SERVICE Complete!

■ We furnish a core barrel service in Gulf Coast and Mid-Continent fields that is absolutely complete. This service includes both the BREWSTER WIRE LINE and PERFECTION coring devices. The Brewster Wire Line Core Barrel takes a core at any depth right through the drill stem in from 40 to 60 minutes. You save from 3 to 6 hours on every coring job. No temptation to pass up important formations. No occasion to pull your drill stem until a bit is dulled. The PERFECTION Core Barrel takes a perfect core 2" in diameter up to 20' long in a split liner. Remove half the liner for inspecting the core. Drill or spud right through bridges and set down on the bottom with a clean inner barrel. The BREWSTER CORE BARREL SERVICE ranks ace high with well diggers. Write, wire or 'phone!

Brewster's Better Bits

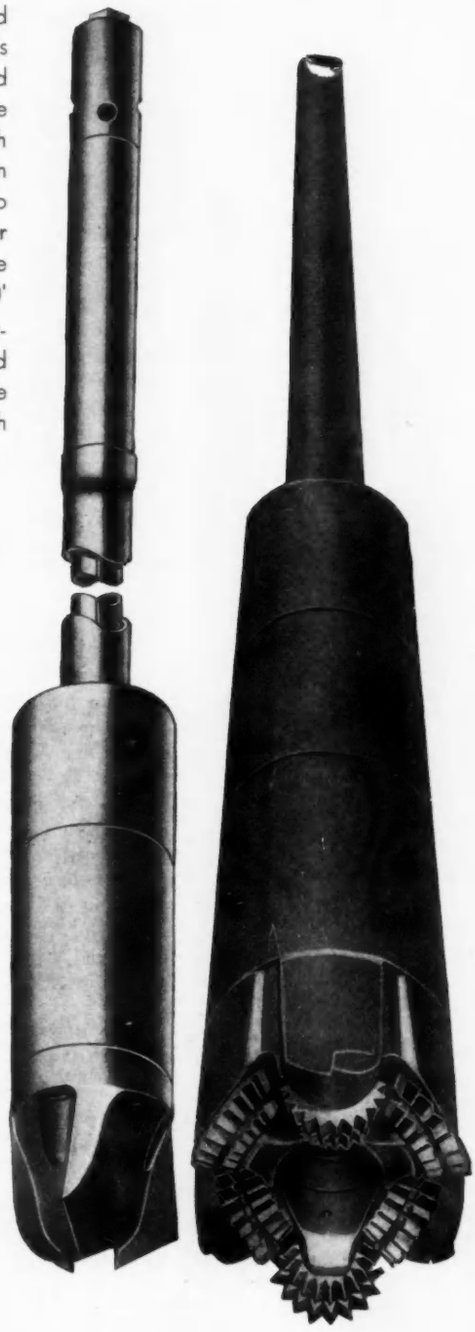


Two Blade Bit **Three Blade Bit** **Four Blade Bit**

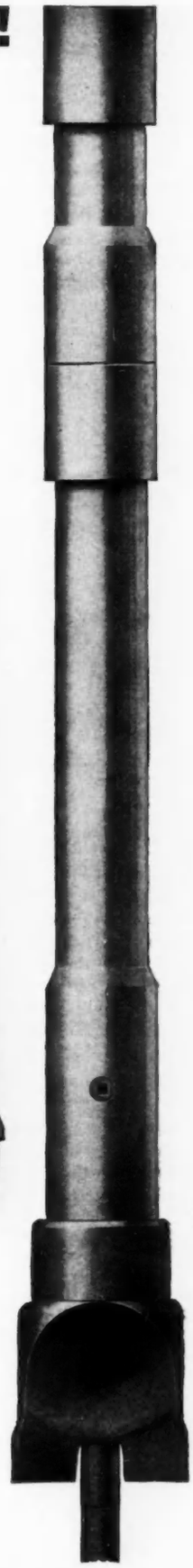


Six Blade Bit

There is a Brewster Drag Bit for any formation at any depth anywhere. Made and dressed by experts using CARBOLITE inserts and crushed CARBOLITE only. Faster hole, straighter hole—ask any man who has worked on a well drilled with BREWSTER BITS! Conveniently located Brewster service points. Let us quote on our bit service for your next hole.



PERFECTION CORE BARREL CONES EQUIPPED WITH SOFT FORMATION AND HARD FORMATION CUTTER HEADS. For sale outright in the U. S. at 50% discount from former price.)



Brewster Wire Line Core Barrel

See the COMPOSITE CATALOG for further information about BREWSTER Products.

The BREWSTER Co., Inc.

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Phone C-6811

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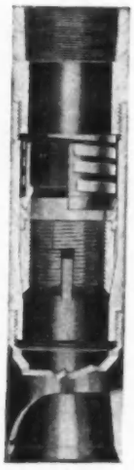
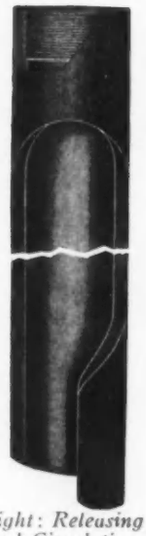
Acme Well Supply Co.
136 Liberty Street
New York City

circulation. In case fish cannot be pulled overshot can be released by letting tension off the drill stem, rotating to right about 10 times, pick up on pipe about two inches, then rotate to right and repeat until slips turn loose. Slips can be furnished for any size pipe or tool joint. This overshot can also be supplied in left hand type for backing off drill stem.



Left: Forged Steel Wall Hook



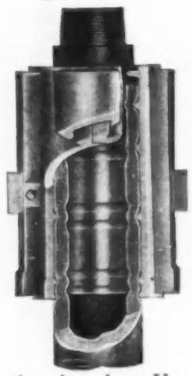
Right: Releasing and Circulating Overshot

▪ *American Wall Hook*

The American Wall hook is made to run on the American overshot. It allows the pipe to be straightened and the fish caught at the same time. It is necessary only to take the regular guide off the overshot and screw on the wall hook.

▪ *American Boltless Hose Coupling*

This clamp consists of three wedges, three segments and one coupling, or nozzle. It is made with a wedge effect, preventing cutting of hose. Should the clamp work loose, a sledge hammer may be used to drive it on the wedge, thereby tightening. The nozzle is made of steel, treated to withstand a great deal of pressure and cutting.



Left: American Hose Coupling

Right: American Fishtail Bit

▪ *American Fishtail Bit*

This bit was first made for use in fields where gumbo or soft formations were predominant. During the past two years, it has been used on chalk and other hard formations. This was made possible by using different welding compounds.

Water courses at cutting edge allow lubrication at cutting point, thereby preventing burning of bit. Reaming edges, which are well built up, allow bit to ream as it digs, thereby making a straight hole, as well as doing away with extra trips to ream. American fishtail bits are made long enough to permit plenty of dressing.

American Paraffin Bit

▪ *American Paraffin Bits*

This tool is made to run on sucker rods for use in tubing, but can be used on sand line by putting on socket and placing two or three polish rods for sinkers. It is also made in casing sizes with cable tool joint as per order. The wings fold up going into the hole, but in coming out they embrace the wall of tubing or casing and clean out the pipe. New wings can be ordered and put on in any shop or at location.

▪ *American Rotary Shoes*

These shoes are made to run on casing for washing over a stuck string of pipe. As a general rule, one or two joints of casing are run with a rotary shoe on them and then the top is snubbed from casing to drill pipe. In some places, more joints are run but as this is dangerous, it is suggested that an inside pipe cutting job be performed first and then over the fish that is left in the hole.

▪ *Adjustable Steel Rig Brace*

This steel rig brace is made in sizes of four inches and six inches. The six-inch size is adaptable to rigs for drilling deep holes. They are bolted to engine foundation, or mud sills, and also the derrick floor. The top is bolted to header board or jack post. They are of steel throughout, have an 18-inch adjustment to take care of different size derrick.

Adjustable Steel Rig Brace

▪ *American Tie Down Flange*

This flange is placed between two flange gate valves. It is grooved to fit any type valve, shortens hook-up by eliminating casing nipples between valves. It also does away with connections between valves. It can be furnished bored to fit over casing to use as casing clamp.

The ends of these flanges are made so as to tie down with either stirrup bolts or tie rods. They are tested to a pressure of 10,000 pounds, but have tensile strength in excess of 100,000 pounds.

Tapered Tap

▪ *American Tapered Taps*

This tap is used to catch pipe that is so broken that the overshot cannot take hold. It is made in three graduated steps where it will catch drill pipe, tool joint, upset in tool joint or drill pipe. The tap will bend before breaking. These taps are constructed with a hole large enough to allow circulation in case it is needed.

Tie Down Companion Flange

The Bridgeport Machine Company

An unusual and interesting feature of The Bridgeport Machine Company, Wichita, Kansas, exhibit is the distribution from its booth of a special edition of "Bridgeport Bulletin", which features the equipment shown in the company's display, as well as giving a complete picture of its Texas organization. The company also is showing, in addition to its regular field equipment a miniature working model of the Bridgeport straight-lift pumping hanger.

▪ *Rotary Hose*

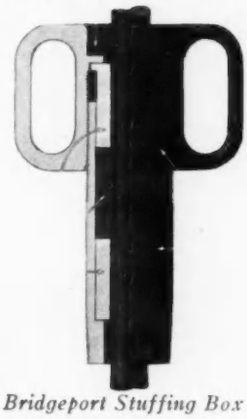
Bridgeport Rotary Hose

Two styles are made: "Bridgeport" for regular field work and average working pressures; and "super-Bridgeport" for most severe service and highest working pressures.

The inner heavy tube is made of tough, high-grade, oil-resisting rubber of seamless construction. The body is built up of eight plies of extra heavy, balanced woven duck, vulcanized together securely so as to form a homeogenous structure of unusual compactness and strength. The woven wire reinforcement is imbedded securely in the hose structure to supply the super-strength and correct elasticity. A second reinforcement is imbedded in rubber also, the wrap running opposite to that of the first. Two outside plies of heavy woven duck (making 10 in all) protect the wire and add strength to the entire hose. A heavy covering of tough, rubber protects the fabric and wire from abrasion and rough usage to which rotary hoses are subjected.

▪ *Bridgeport Stuffing Box*

Simplicity of design and low cost are features of this stuffing box. Crown and body are made of malleable steel. All wear is absorbed by the inexpensive glands. Pressure on the packing rings is adjusted by a slight turn of the correctly shaped handles, which are large size to permit handling easily. Handles are malleable



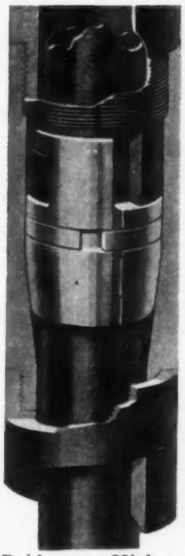
Bridgeport Stuffing Box

steel and cannot be damaged by hammering or prying.

Action of the stuffing box rings is positive. There are no springs, or other delicate parts. It takes any kind of packing, comes equipped with six lead-impregnated, self-lubricating, oil-resisting stuffing box rings.

This stuffing box is made for a two inch, 2½ inch and three inch regular or external upset tubing and for 1⅛ inch and 1¼ inch polished rods.

▪ *Bridgeport-Vickers Releasing and Circulating Overshot*



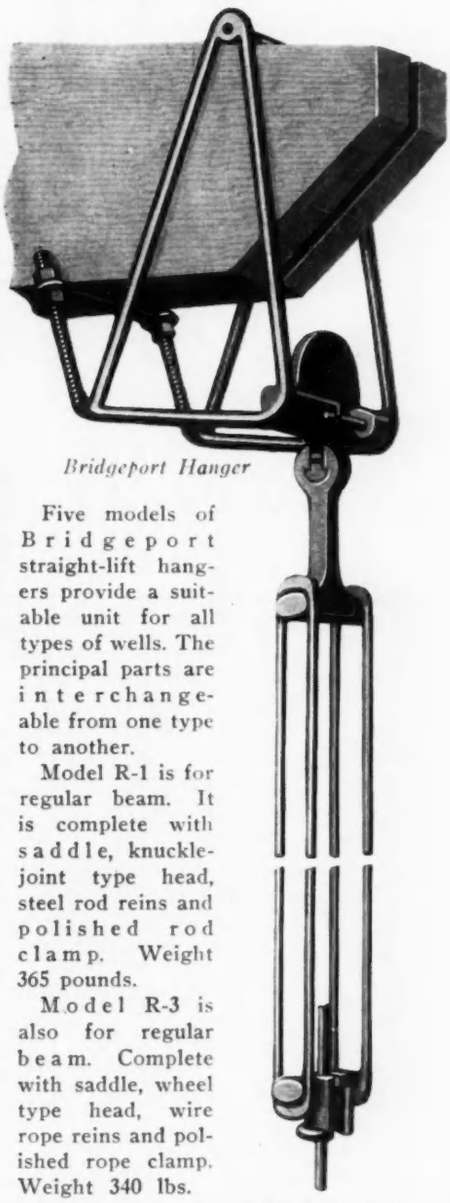
Bridgeport-Vickers Releasing and Circulating Overshot

The Bridgeport-Vickers releasing overshot releases under any and all conditions and without damage to the tool, according to the manufacturer.

The "J" slot, a device with which drillers are familiar, is employed in the overshot. If it is found necessary to release the hold, the tool is simply set-down and slight turn made to the left. The weight of the drill stem forces the slips upward in the bowl until the "J" slots are in juxtaposition. A short turn to the left then locks them in the release position. This leaves only a spring steel band around the slips, holding them against the fish so that they release readily when the overshot is raised. When the overshot is set-down on the derrick floor the fish is released instantly.

A lead seal effectively packs off the fluid, permitting any pump pressure to be maintained through the pipe while pulling the overshot. When it is desirable to pump through the tool, the lead seal is forced downward by the water pressure and outward against the bowl, sealing the slot between the split slips, thus shutting off all leakage of fluid. These overshots are for rent or for sale.

▪ *Bridgeport Straight-Lift Pumping Hangers*



Bridgeport Hanger

Five models of Bridgeport straight-lift hangers provide a suitable unit for all types of wells. The principal parts are interchangeable from one type to another.

Model R-1 is for regular beam. It is complete with saddle, knuckle-joint type head, steel rod reins and polished rod clamp. Weight 365 pounds.

Model R-3 is also for regular beam. Complete with saddle, wheel type head, wire rope reins and polished rope clamp. Weight 340 lbs.

Model U-1 is for underslung beam. Complete with knuckle-joint type

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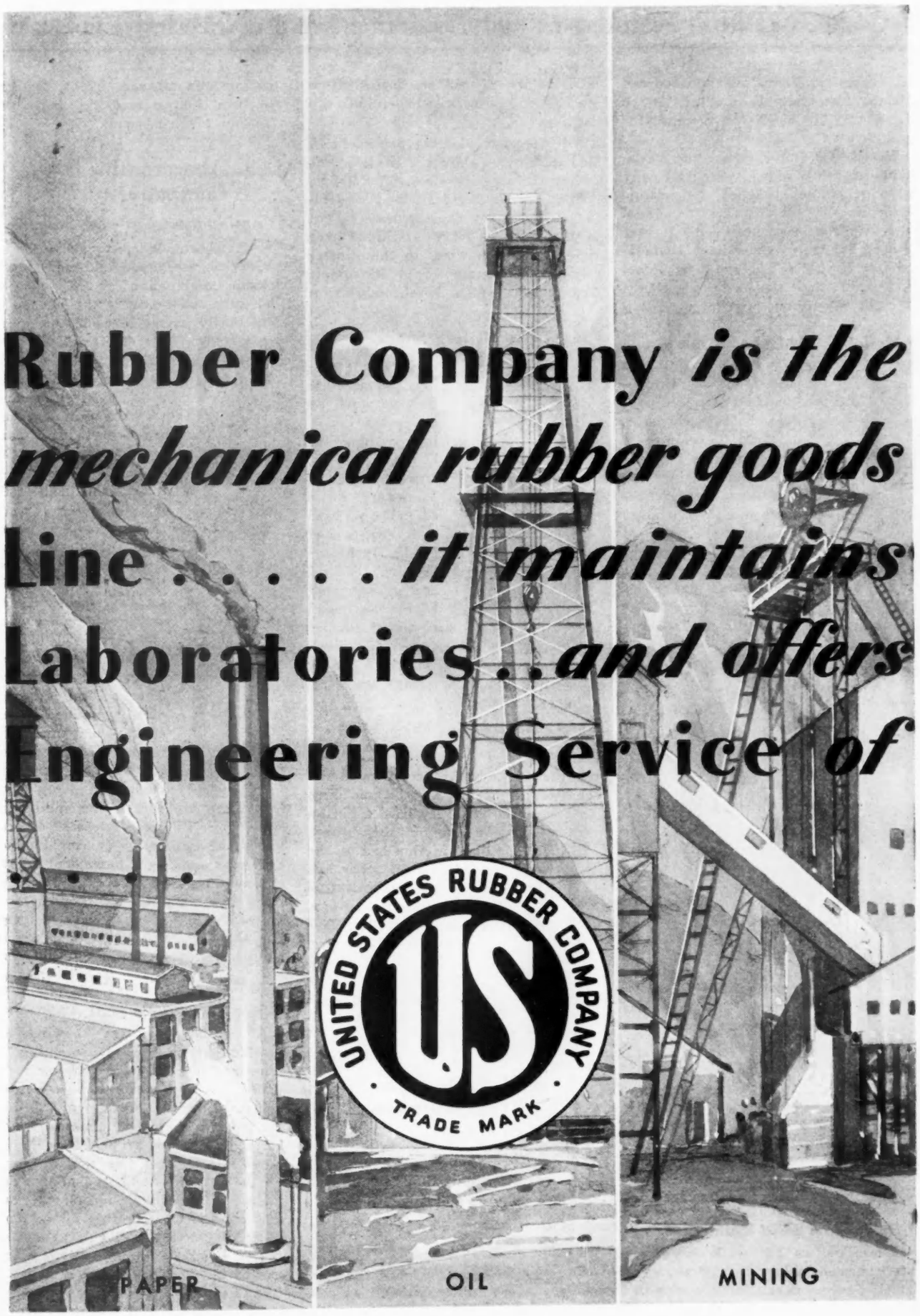
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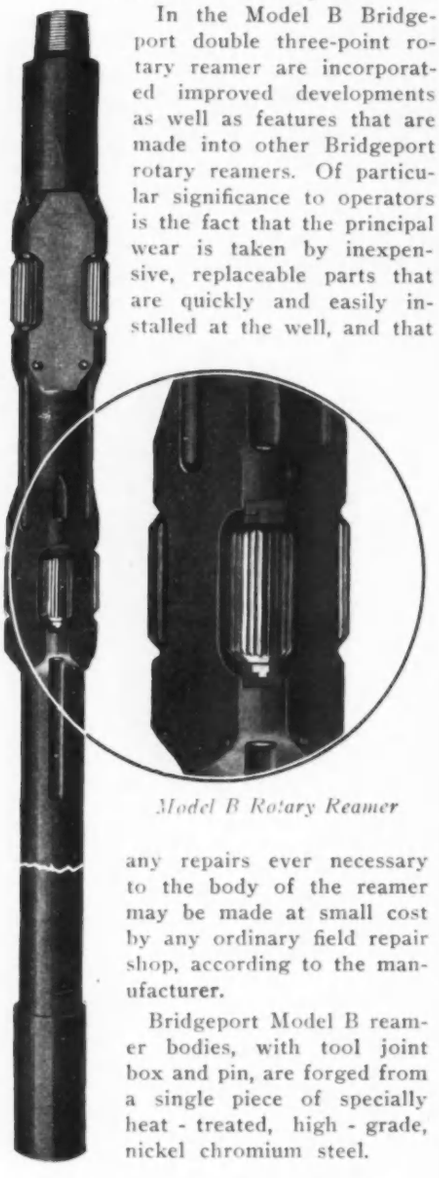
head, steel rod reins and polished rod clamp. Excepting the saddle it is the same as Model R-1. Weight 158 pounds.

Model U-3 is for underslung beam. Complete with wheel type head, wire rope reins and polished rod clamp. Excepting the saddle, same as Model R-3. Weight 136 pounds.

Model J-1 for underslung beam is complete with solid type head, steel rod reins and polished rod clamp. Weight 144 pounds.

▪ *Model B Bridgeport Double Three-Point Rotary Reamers*

In the Model B Bridgeport double three-point rotary reamer are incorporated improved developments as well as features that are made into other Bridgeport rotary reamers. Of particular significance to operators is the fact that the principal wear is taken by inexpensive, replaceable parts that are quickly and easily installed at the well, and that any repairs ever necessary to the body of the reamer may be made at small cost by any ordinary field repair shop, according to the manufacturer.



Model B Rotary Reamer

Bridgeport Model B reamer bodies, with tool joint box and pin, are forged from a single piece of specially heat - treated, high - grade, nickel chromium steel.

▪ *Bridgeport Drill Collars*

These collars are made in forged steel normalized type as well as forged steel, chrome nickel, fully heat-treated drill collars. These are forged from steel billets, no rolled steel rounds are used.

All sizes have largest possible outside diameter. They are made in 20, 24 and 30 foot long sizes. The 30-foot collars are preferred by many operators because they provide more weight at the bit and form a stiffer, more rigid connection than do the shorter collars. These are bored for ample clearance around a 20-foot lubricator.

▪ *Hychrome Casing Shoes*

Hychrome Casing Shoes

Hychrome casing shoes are built to stand up under the crushing weight of long, heavy, strings of pipe. They are made of alloy steel and heat-treated by the Hychrome process. They are recommended for use on all casing smaller than 12½ inch where long strings are set.

▪ *Hychrome Subs*

Hychrome subs make it possible to use the rock bit drill collar with the conventional fishtail, disc bit and drag bit. They have a pin on top to fit the bronze lined friction box on the rock bit drill collar and have a standard tool joint box on the bottom. These subs do not have to pass the lubricator, consequently the bore is the same as that of the tool joint. They are made of heat-treated alloy steel.

Tapered Taps

▪ *Bridgeport Tapered Taps*

Bridgeport tapered taps are manufactured from alloy steel, heat-treated to produce a tough, elastic core. Threads are then carburized to extreme hardness. With this construction the tap cuts like a die, yet will bend before breaking under severe and rough usage.

J. S. Abercrombie Company

▪ *Combination Cut and Pull Tool*

J. S. Abercrombie Company, Houston, Texas, is showing the new Abercrombie combination cut and pull tool that cuts and recovers the cut on a single trip, saving considerable time for the well owner. Cutting blades, operated by a positive control, are driven out and withdrawn and means are provided for centering and aligning the tool with the "fish" and for rotating and washing down to remove sand or shales from the "fish." If desired, the spear can be engaged before the cut is made so as to sustain the weight of casing about to be cut off, thereby relieving the cutters of danger of breakage. The operator is immediately notified when cut is completed, due to relieved strain of cutters and resulting change in pump pressure. The pulling device releases or engages the casing by quarter turn of drill pipe and slight movement (down to release and up to engage pipe. All work is accomplished without coming out of the hole, there being no triggers nor trips employed that would require hand resetting after a casing hold has been made.

Abercrombie Cut and Pull Tool

▪ *Outside Cutting Tool*

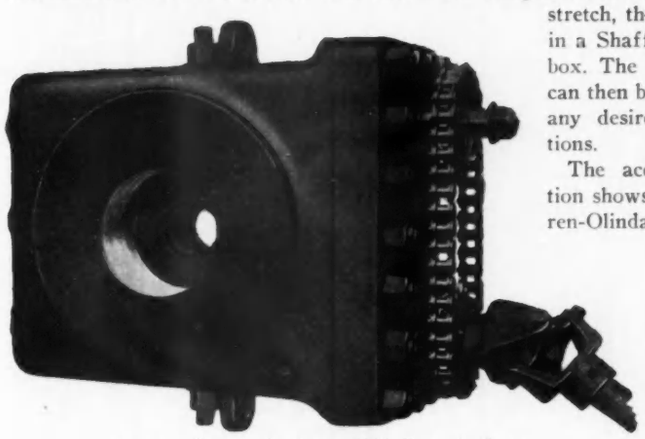
Abercrombie is also showing the outside cutting tool, representing an improved method of recovering stuck drill stem and cleaning hole quickly and economically. Cutters of this tool are fed into the cut automatically by a screw feed that is propelled by the rotation of the tool. No upward strain on the cutters is had, and no gouging action produced. Design of the tool and method of operating allows handling of crooked drill pipe as well as that in good condition. Average recovery by this tool is approximately 500 feet of pipe.

Shaffer Tool Works

▪ *Cellar Control Gate*

Shaffer Tool Works, Brea, California, is exhibiting a 6000-pound test cellar control gate (ram type blowout preventer). Protection is obtained with the drill pipe in or out of the hole by the use of two gates, connected one above the other. It closes around the drill pipe with a seal that has held 2400 pounds of pressure for 75 hours.

The gates are equipped with steel rams that are faced with oil resisting rubber and which are actuated by two right and left hand steel screws, one on each side of the rams. The upper gate rams are designed to close around the drill pipe with a rubber contact to seal the hole when the drill pipe is in the hole, and the lower gate has rams with straight rubber faces where the two halves make contact in closing and thus closing the well in completely when the drill pipe is out of the hole.



Heavy Screwed Type 6000-Pound Gate

These gates may be operated manually or mechanically.

▪ *Rotating Blowout Preventer*

The Shaffer rotating blowout preventer is designed especially for drilling under pressure without danger from blowouts. It consists of a steel bowl in which is a complete packing assembly that is held in place with a bonnet. This assembly provides for packing around the grief stem or around the drill pipe. The essential part of the assembly is a long sleeve that rotates within the packer and which is carried on two sets of ball bearings that are packed off with grease. It is tested up to 6000 pounds pressure.

When combined with Shaffer cellar control gates and other necessary Shaffer equipment, the rotating blowout preventer provides, according to the manufacturer, a complete well control at all times with the additional advantage of offering no interference to drilling.

This preventer can also be supplied with a Warren control head so that shut-offs or pipe connections may be made, even with the pipe in the hole. The patented flange feature provides means of making any type of desired connections.

▪ *Warren-Olinda Combination Head*

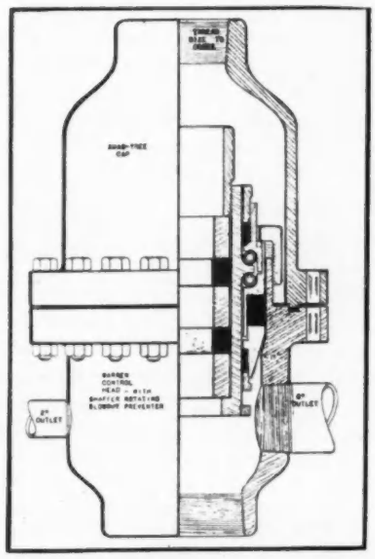
The flanged body of this head is used as blowout preventer while drilling. The oil string is set on slips, with the desired stretch, then cut off and packed in a Shaffer "Olinda" stuffing box. The Warren flanged cap can then be bolted in place with any desired shut-off connections.

The accompanying illustration shows a combination Warren-Olinda high-pressure head, with heavy flanges and tongued-and-groove packing. The body has a four-inch or six-inch mud-line connection, as well as a two-inch gas outlet.

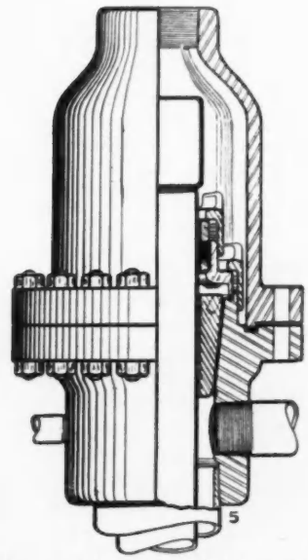
▪ *Spool Type Casing Head*

The Shaffer spool type casing landing head is made in two models, the "A" type for moderately high pressure, and the "B" type for extreme high pressures.

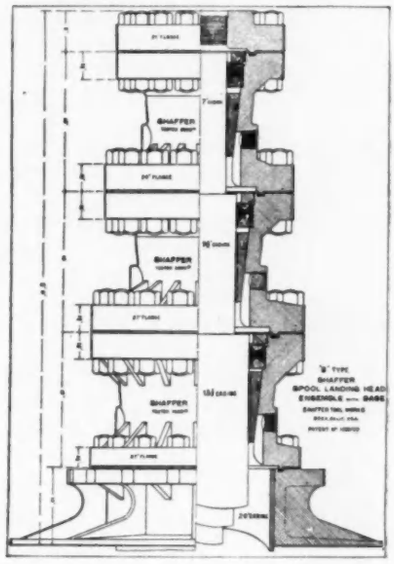
The accompanying illustration shows a complete ensemble in which three strings of casing are supported, all resting on the spool head landing base, which has an extended top flange that has slots for receiving the bottom end of the tie down rods. The base plate is welded to the surface string and is grouted underneath to a level position.



Warren Control Head with Shaffer Rotating Blowout Preventer



Warren-Olinda Combination Head



Manufacturers claim the head has the following advantages:

The casing is landed on slips with a pack off above, the entire assembly making a compact unit.

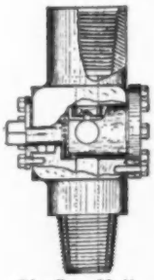
The operation of landing the string is remarkably simple. It consists of simply setting the slips and cutting off casing flush with tip of head.

The string of casing is at all times sus

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

pended from the elevator or spider when setting the string, and at no time is it necessary to unscrew or let go of the casing to complete the landing operation or to have casing nipples cut to proper lengths to connect the casing with the landing head.

▪ *Shaffer Kelly Cock*



Shaffer Kelly Cock

This cock is a high-pressure quick-acting shut-off valve for the top of the Kelly, used to protect the rotary hose and swivel against heavy back pressure. The plug is not tapered and does not fit closely into a seat, but acts as a guide to carry a valve just large enough to cover the hole.

Each Shaffer Kelly cock is shop-tested and operated under 3000 pounds pressure before leaving the factory.

▪ *Shaffer-Boles Formation Tester*

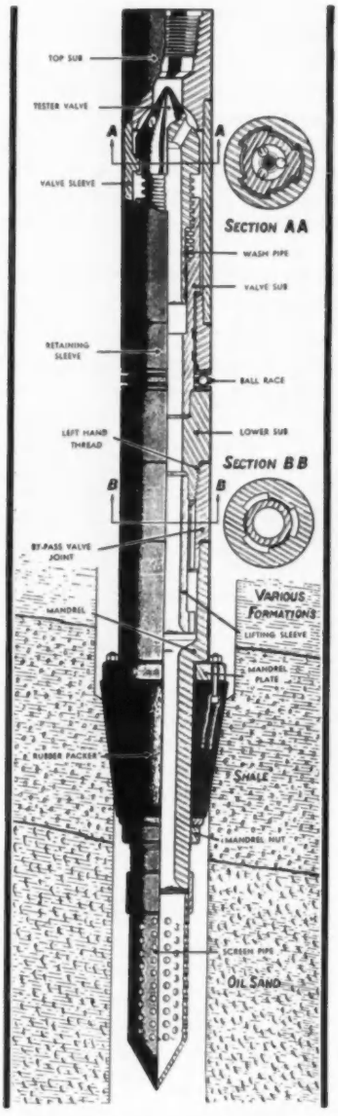
This device gives samples and flow tests, without necessitating the reduction of the diameter of the hole. It has few working parts and no springs or trips. A hard faced valve that is under positive and easy control from the surface, may be opened and closed as many times as required during testing operations. Three revolutions of the pipe to the left open this valve fully, three turns to the right close it tight. A by-pass consisting of a left hand joint opens the tester below the main valve so that the fluid pressure can be equalized on both sides of the packer; and this joint can be unscrewed only after the tester valve has been positively closed.

Tubing Swab

Type C is used for open hole testing where no shoulder is provided. The packer is set by lowering the weight of the drill pipe which shears a pin. The length of the tail piece may be varied to control the depth at which the packer is desired to be set.

▪ *Shaffer-Phipps Swab*

Shaffer-Phipps improved tubing and casing swabs are so designed as to prolong and protect the life of swab rubbers.



Shaffer-Boles Formation Tester

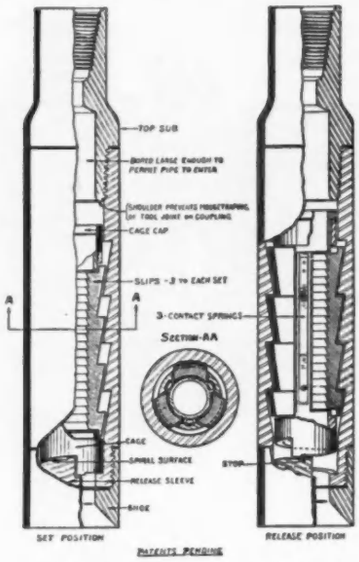
This has been accomplished through a reversible construction assuring double wear, and by a patented cup arrangement covering worn surface through adjustment, presenting new rubber contact or sealing surfaces.

This improved swab is short and compact; thereby assuring its passage without resistance or damage through short curves or bends in casing or tubing. It provides a large area and mandrel capacity, thus insuring rapid submersion. The body of the swab is a one piece mandrel.

Tubing swabs are made in sizes of two inches, 2½ inches, and three inches diameter. Casing swabs are made in sizes of 4½ inches and larger.

▪ *Rotary Releasing Socket*

The Shaffer-Harmon rotary releasing socket consists of a top sub, body, cage, a set of three slips, release sleeve, and a guide shoe. The top sub may have any suitable joint in its upper end. The lower end is threaded to fit the body, which has tapered concentric steps turned in its central portion corresponding to the taper on the backs of the slips. The lower end has a male thread to fit the guide shoe. Slightly below the tapered steps, the body is bored to accommodate the release



Shaffer-Harmon Rotary Releasing Socket

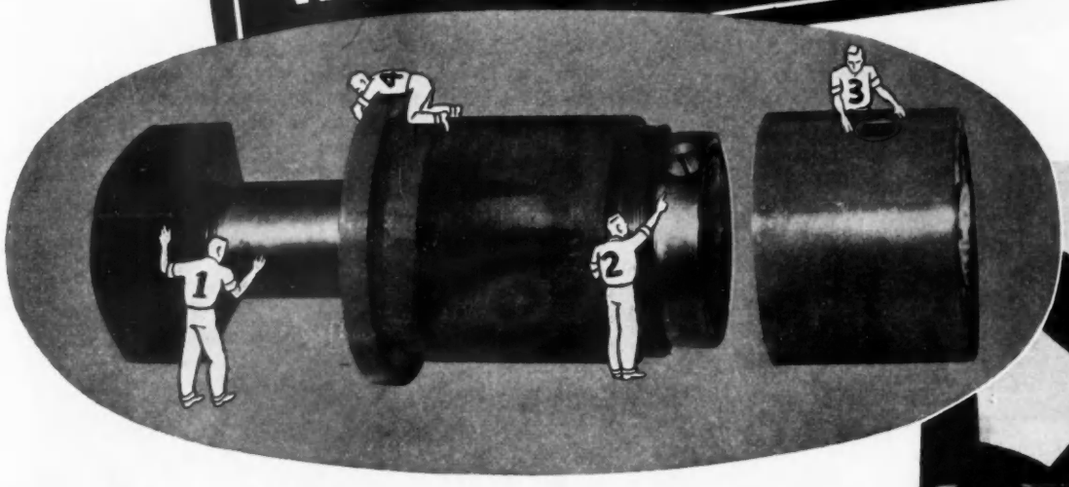
sleeve which is permanently keyed in position. The cage holds the slips and is provided with a threaded cap on its upper end which locks the slips in position. On the lower end a stop on the spiral face limits the amount the cage can rotate in respect to the release sleeve. When the body is rotated to the right in respect to the cage and slips, the latter are moved upwardly and held in release position. By turning the body one revolution in the reverse direction the slips are moved to set position, allowing them to move down on the tapered steps and contract against the fish.

▪ *Stop Cock*

The Shaffer stop cock has a full opening straight core, for which the manufacturer claims free operation with absolutely no sticking, and requires no lubrication.

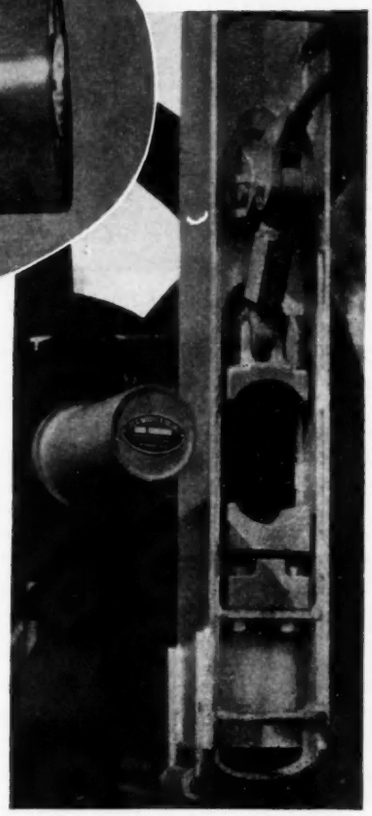
It has a feature, for which patent application has been filed, that wedges the movable disc, covering the passage way and forming the sut-off, inward and away from the inside wall of the body sufficiently to relieve the wall friction

A SELF-LUBRICATING WRIST PIN BEARING



SIMPLE • RELIABLE • INEXPENSIVE

The Moore Oil Bath Wrist Pin Bearing consists of a steel sleeve assembly which slides over a standard A.P.I. wrist pin (1) and is held in position by a tapped collar (2) secured by a bolt through the wrist pin. A cap (3) which screws on the bearing, covering the end of the wrist pin and collar, provides an oil reservoir. This is filled through a plug at the top. A rawhide seal at the other end of the bearing (4) retains the oil. The outside surface of the sleeve is knurled to insure gripping. The pitman is clamped over the bearing like over an ordinary wrist pin. Moore also makes a similar roller bearing wrist pin bearing. Write for details.



The Moore Pitman is easily operated by a patented toggle and lever. The clamping blocks are self-aligning in one plane and when the Pitman is used with a Moore Bearing it is impossible for the wrist pin or stirrup to bind.

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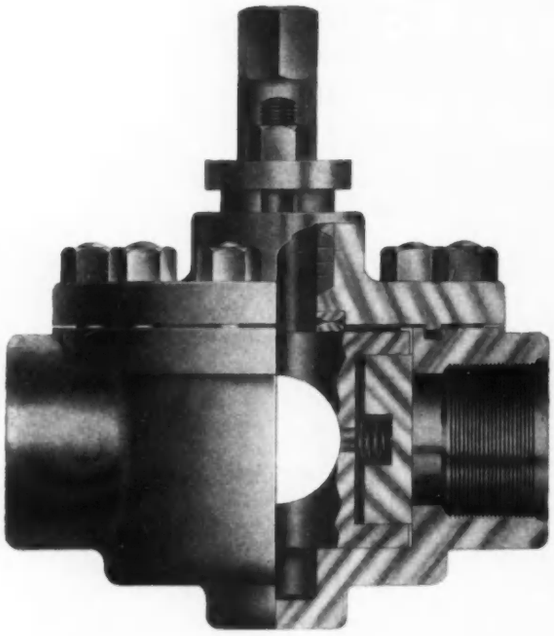
PORTABLE PUMPING UNITS • CLEAN-OUT MACHINES

EQUIPMENT Featured at Oil Equipment & Engineering Exposition



Shaffer Stop Cock

when the disc is rotated from the closed to the open position.

The inside of the body which forms the seat for the discs has a straight bore. The body of the mandrel, of which the stem passing through the stuffing box is an extension, is smaller than the bore of the body. Thus, all contact between the mandrel and the body with the exception of the centering pilot at the bottom and the stem passing through the stuffing box at the top is eliminated.

This stop cock is suited for use in gasoline plants, boiler blow-offs, or any installation where stop cocks are required.

▪ *Non-Vulcanizing Packer*

Shaffer-Phipps Packer

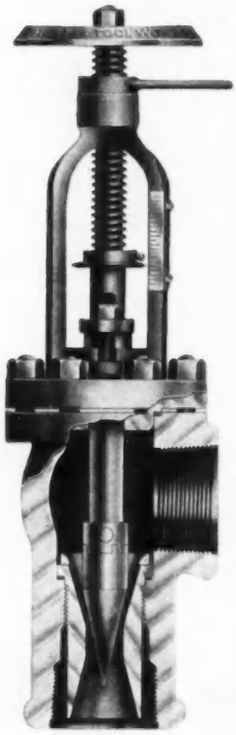
The Shaffer-Phipps non-vulcanizing packer not only permits an initial seal but makes possible repeated releasing and resetting before renewal of rubber packing or other parts. The design of this packer as to pull directly upward on the rubber packing element, thus any upward movement of the packer serves to pull the packing element inward and elongates it sufficient to assure complete release from the casing.

▪ *Adjustable Flow Bean*

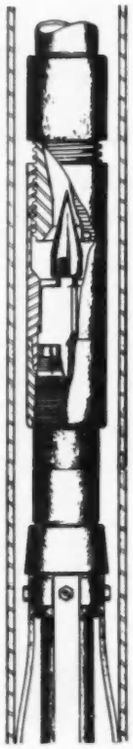
The Shaffer improved adjustable flow bean is made in six sizes as follows: one-inch; two-inch; two and one-half-inch, three-inch; four-inch, and six-inch.

This bean controls the flow of oil and gas, throttling it to any desired pressure and rate of flow without having to disturb the current. The orifice is designed on the principle of the Venturi tube which allows the fluid to flow through smoothly and with less turbulence and tendency to emulsify.

The company manufactures an East Texas type of adjustable flow bean which was designed to control the flow of moderate pressure wells and to sell at reduced price without sacrificing any of the qualities found in its regular high pressure beans.



Adjustable Flow Bean



Bottom-Hole Flow Bean

▪ *Bottom-Hole Flow Bean*

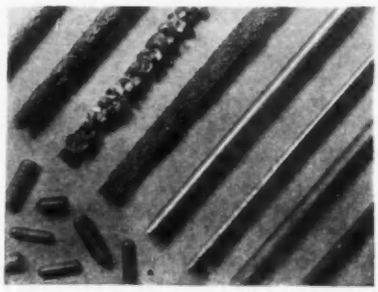
The bottom-hole flow bean manufactured by Shaffer Tool Works operates on the same principle as the Shaffer adjustable flow bean. It is made to be run on and turned by the tubing. It can be inserted in the string of tubing at any point.

Haynes Stellite Company

▪ *Hard-Facing Materials*

Haynes Stellite Company, Kokomo, Indiana, is exhibiting a complete line of hard-facing materials, including Haystellite inserts for hard-setting of drill bits. Progressive steps in the application of Haystellite inserts to obtain the maximum footage on bits are being explained by the use of a series of actual bits on which the proper number, size and spacing of Haystellite inserts are indicated.

Another feature of the exhibit is an estimating contest. Visitors are invited to calculate the footage represented by



Haynes Stellite Products

the inserts contained in a round jar. Prizes will be awarded for the most accurate estimates. Even a person inexperienced in oil well drilling practices is able to enter the contest since examples will be shown of bits set with Haystellite inserts that have made records in actual drilling.

Haynes Stellite for hard-facing needle valves, angle valves, gate valves, and similar wearing parts are shown.

The comparative corrosion resistance of Haynes Stellite and ordinary steel is also being demonstrated. In a tank of high strength acid is suspended a wire of each of these materials. The steel wire is replaced daily, whereas the Haystellite wire if left in the acid continuously would last well into the next century, according to the manufacturers.

The Haynes Stellite exhibit is being held in booths 19, 20 and 21 in conjunction with that of The Linde Air Products Company.

MacClatchie Manufacturing Company

Products of the MacClatchie Manufacturing Company, Compton, California, that are being exhibited include the following equipment:

▪ *Pump Liner Puller*

The MacClatchie pump liner puller is

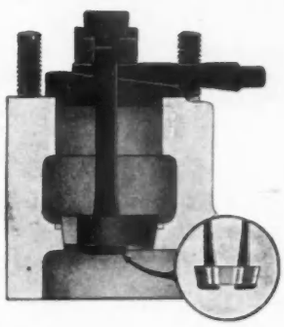
of simple construction, and provides a steady grip and tremendous pull. It is built especially to pull the most stubborn

MacClatchie Pump Liner Puller

liners. Made in four sizes for liners from 3 inches to 7¾ inches in diameter.

▪ *Valve Seat Puller*

This valve seat puller is an inexpensive and efficient tool, designed to pull all makes of valve seats. The strength of



MacClatchie Valve Seat Puller

the material and design of these pullers have recently been improved.

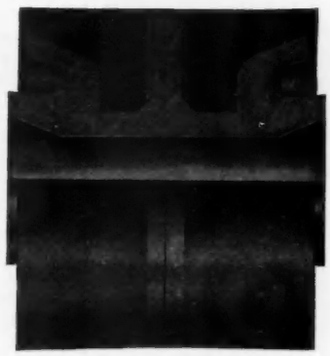
▪ *Pump Rods*

MacClatchie pump rods are made in two styles, the solid type and the sleeve type. Both rods have the same advantages, except that the sleeve type has the added feature of having a sleeve that is replaceable at a fraction of the original cost.

Troubles due to pistons becoming loose on the rod have been practically eliminated by the use of a rod nut with a taper, which when tightened securely tends to compress, thereby locking itself automatically, according to the manufacturer.

▪ *Wearever Mud Pump Pistons*

The MacClatchie Wearever mud pump piston is designed so that all wear is absorbed by the rubbers, which are easily replaced at less than half the price of a new piston. All bodies are machined from



Wearever Mud Pump Pistons

drop forged steel. They do not break. The rubbers are carefully compounded in the company's own rubber plant. These mud pump pistons are made for all sizes and makes of pumps.

▪ *Rotating Blowout Preventer*

This MacClatchie device is of rugged construction with the design so simple that it will stand up under extreme hard usage. There is no wear on the packing unless under pressure. Due to the small amount of packing exposed to friction, the friction is practically nil. It is of

Rotating Blow-out Preventer

very compact design, the height of the large size is approximately 24 inches. This preventer is operated from the derrick floor.

MacClatchie Sleeve Type Pump Rods

▪ *Lubricated Stop Cocks*

The MacClatchie manufactured lubricated stop cocks are made in all sizes from one inch to six inches and to withstand pressures from 150 pounds to 3000 pounds.

MacClatchie Lubricated Stop Cocks

▪ *MacClatchie Wall Scraper*

This wall scraper is of three-point cutter assembly, which does away with gyrating, thereby cutting a true accurate hole and at the same time eliminating vibration and whipping of the drill pipe. In designing the body, special care was exercised in obtaining maximum strength. The MacClatchie wall scraper also has circulation going through the pilot bit to circulate the cuttings up and away from the cutter.

Right: MacClatchie Wall Scraper.
Left: MacClatchie Straight Reamer and Hole Guide.
Center: MacClatchie Rotary Underreamer

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

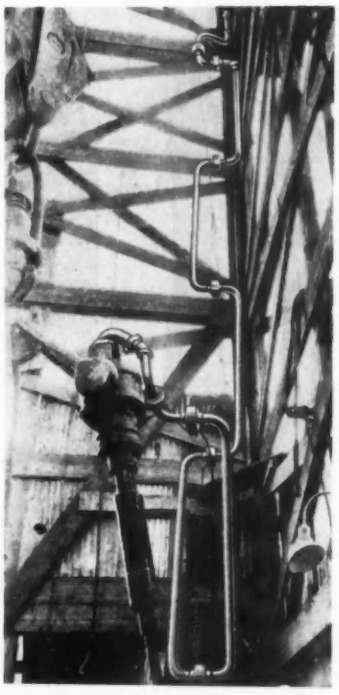
▪ *Straight Reamer and Hole Guide*

This tool makes a combination straight hole guide and reamer. It does not roll out the formation, but has a slicing action on the formation which eliminates undue torque on the drill pipe. It has three tiers of cutters, with each tier of cutting knives so positioned that they take one-third cut of the formation during each revolution. The three tiers of cutters are made integral with the collar or body of cutter, which simply slide over the mandrel and are held in position and from rotation by three driving lugs that set in grooves on the main mandrel or body.

▪ *MacClatchie Rotary Underreamer*

The MacClatchie Underreamer has four streams of circulation back of each cutter, which lubricate and cool the cutters and accomplish the important functions of cutting the formation. Opening and closing of cutters is entirely automatic, depending only on rotation. The wear on the reamer body is practically nil; the wear all coming on the cutters, bushings and pins, which are easily replaceable.

▪ *Rotary Hose*

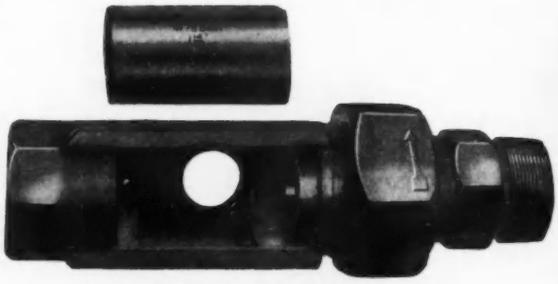


MacClatchie All-Steel Hose

Maximum flexibility under high pressures, unobstructed flow with no sharp bends and leakproof characteristics are features of the MacClatchie all-steel rotary hose.

▪ *Flow Bean Nipple*

The nipple lasts indefinitely and the beans can easily be redrilled time after time, making it possible to use the same beans again and again as the flow is stepped up. The beans are interchangeable for any size flow nipple.



MacClatchie Flow Bean Nipple

▪ *Cement Head*

MacClatchie Cement Head

MacClatchie Quick Union

The MacClatchie cement head is made for all sizes and makes of casing. It is extensively used in all fields.

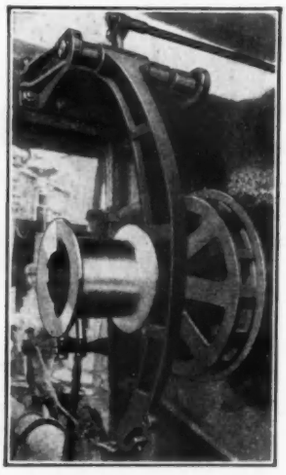
▪ *Quick Union*

This quick union is especially designed for well cementing and use wherever a quick, sure union is needed. It is made in sizes from two inches to six inches.

▪ *Geared Brake*

MacClatchie geared brakes for drawworks have double leverage and will handle the heaviest loads with ease The bands are extra heavy to handle long strings of pipe. It is said that brake lining life is long and that kicks are greatly eliminated.

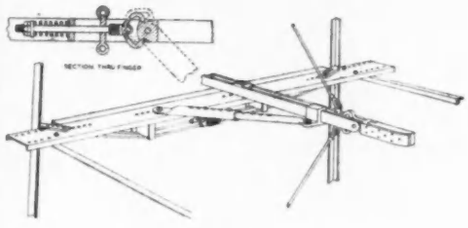
▪ *Automatic Safety Cathead*



MacClatchie Automatic Safety Head

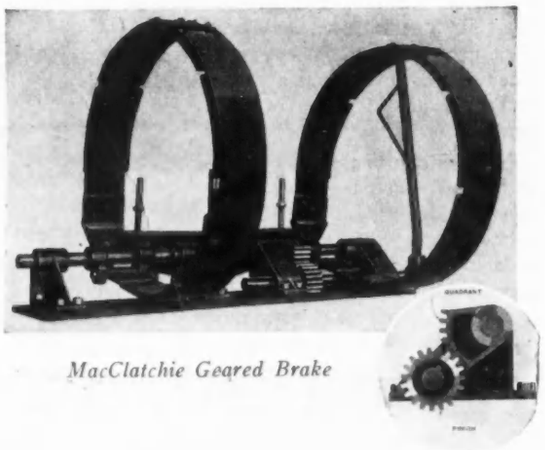
The MacClatchie automatic safety cathead has no clutches, bearings or bushings to get out of order. Its low maintenance cost is featured by the manufacturers.

▪ *Fingerboard*



MacClatchie Fingerboard

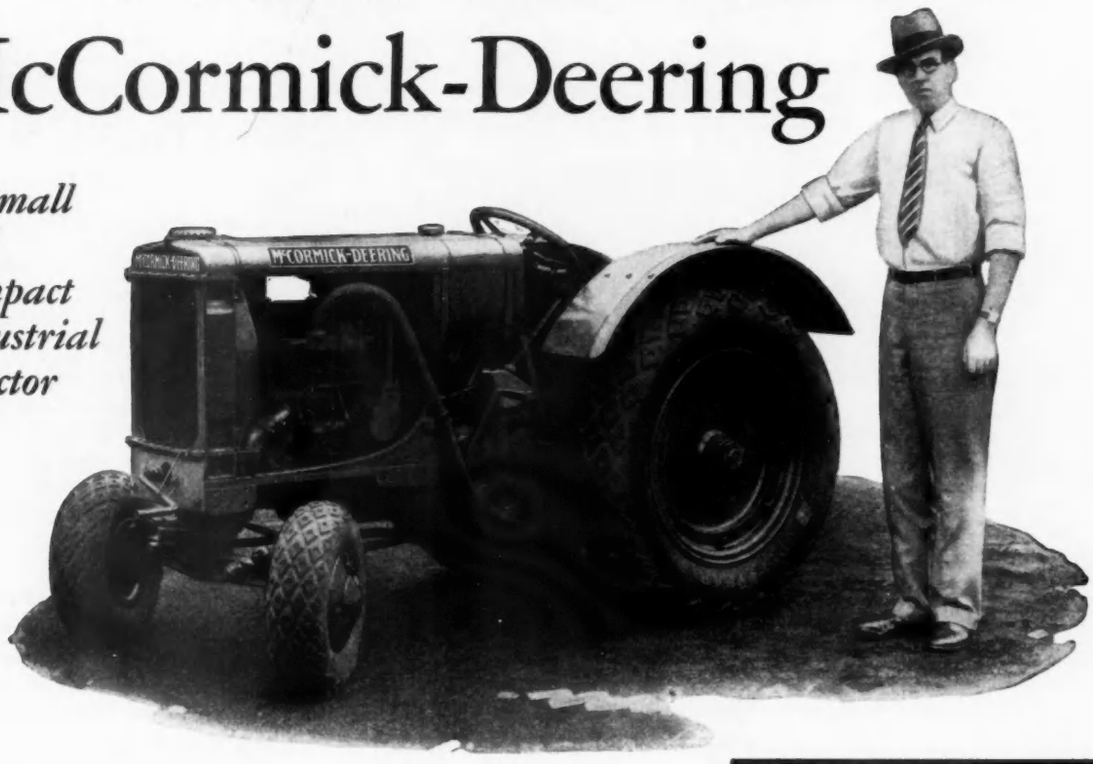
This fingerboard works automatically. If struck by the blocks from below or above the end automatically swings, letting the block by and finger returns to a neutral position.



MacClatchie Geared Brake

Here It Is . . . the Model I-12 a NEW and Nimble McCormick-Deering

A Small and Compact Industrial Tractor



INTERNATIONAL HARVESTER announces the Model I-12—a New McCormick-Deering Industrial Tractor. The I-12 is small, compact, has a range of speeds from 2½ to 10¼ miles per hour, and turns in a radius of 8½ feet.

The International-built engine features replaceable cylinders, down-draft carburetion, induction-type magneto, oil air cleaner, oil filter with a metal element that is cleaned easily, and foot accelerator and hand throttle. Transmission and countershaft are *ball-bearing*—there are 17 *ball bearings* and 6 *tapered roller bearings* in the I-12. Steering worm is mounted on roller bearings.

The rear axle is designed for *uniform stress* to withstand shock loads all the way across. It is semi-floating, mounted on 4 ball bearings, and oil seals give protection against grit and dirt. Muffler, pintle-hook type spring-cushioned drawbar, and comfortable spring seat are regular equipment. Accessible machined surfaces are provided for mounting industrial equipment.

Ask the nearest International branch, or McCormick-Deering distributor or dealer, for information on the McCormick-Deering Model I-12. Write us for catalogs.

INTERNATIONAL HARVESTER COMPANY
606 So. Michigan Ave. **of America** *(Incorporated)* **Chicago, Illinois**

NRA
U.S.
WE DO OUR PART

Brief Specifications:

Engine: 4-cylinder, valve-in-head type, 3-inch bore x 4-inch stroke. Speed variable to 2000 r.p.m.—foot accelerator and hand throttle controlled. Replaceable cylinders. Down-draft carburetor. Force-feed lubrication (drilled crankshaft). Thermo-syphon cooling. Oil filter. Oil air cleaner. Induction-type magneto. 8-inch single plate clutch.

Transmission: 3 speeds forward, 1 reverse. 2½ to 10¼ m.p.h. 4 ball bearings.

Frame: Two-piece construction. Transmission, countershaft and differential, rear axle, and final drive gears enclosed.

Front Axle: 4 tapered roller bearings for front wheels.

Rear Axle: Semi-floating, with 4 ball bearings. Oil seals.

Brakes: Internal expanding type. Operated by foot pedal.

Wheels: Low-pressure pneumatic tires. Front—6.00/9 (21⅓ inches o. d.). Rear—9.00/24 (42¾ inches o. d.).

Fuel Tank: Capacity—11 gallons.

Dimensions: Turning radius, 8½ feet; length overall, 96 inches; width overall, 50 inches; height over steering wheel 52 inches; front wheel tread, 39⅜ inches; rear wheel tread, 40¾ inches; wheelbase, 60 inches.

Power take-off available.

Abercrombie Pump Co.

▪ *"Fluid-Piston" Slush Pump*

Abercrombie Pump Company, Houston, Texas, has on exhibit the improved "Fluid-Piston" slush pump, perfected after more than two years of field tests in which valuable improvements in design and material were worked out.

Included among the improvements is the placing of the slush strainer in the suction manifold rather than on the discharge end.

Moving parts do not contact abrasive-laden fluid with this design. The plungers and rods are packed against water only, permitting the use of simple, pressure-tight packing. There can be no fluid slippage, the volume discharged per stroke remaining constant, equal to the displacement of the plunger.

The pump is streamline throughout to eliminate abrupt changes in the flow. Fluid passages are sufficiently large for the velocities to be kept low.

It is built throughout of cast steel, with interchangeable sections, and in both steam and power driven types as well as for replacement of fluid ends of present pumps. It is designed for working pressures up to 3000 pounds per square inch, and furnished in sizes now in use for this class of equipment.

▪ *Shear-Relief Valves*

Abercrombie Pump Company is also displaying its patented shear-relief valve, an entirely new design for protection against overpressure. Pressure against a specially designed rubber piston is relieved at a set point by the shearing of a common wire nail set in the hardened stainless steel valve stem. Each valve has on its name plate a table listing nail sizes and the pressure at which each nail size shears. A nail gauge is also included in the name plate so the operator cannot mistake nail sizes.

Design of the valve piston and its seating arrangement is such that it cannot leak when closed. A special rubber lip design presses the piston harder against the stainless steel wall as pressure increases. Relief comes instantly when the nail shears, the piston traveling across valve body, bumping against a rubber cushion up in the valve bonnet, entirely out of the way of the fluid flow, eliminating possibility of abrasion. Interior of the valve body is of circular design, creating swirling motion of released fluid so as to keep the valve cleaned.

Shear-Relief Valve

Loss of the nail is the only damage done when the valve releases.

This shear-relief valve is built for two pressures, the high pressure valve for slush pump service having a pressure range of 1000 to 2750 pounds, and the low pressure valve for gathering pumps having a pressure range of 250 to 1000 pounds. The same principle is involved in both, but the low pressure valve body is a single unit bronze casting while the high pressure body is made of high grade steel with the valve bonnet and liner sub of stainless steel.

Since the low pressure relief valve is commonly used where oil is being pumped, the piston is made of a special composition undamaged by hot oil, chemicals or other corrosive agents. The outlet on the low pressure valve may be equipped with a lead line to return the oil to the pick-up line to prevent waste.

Jones & Laughlin Steel Corporation

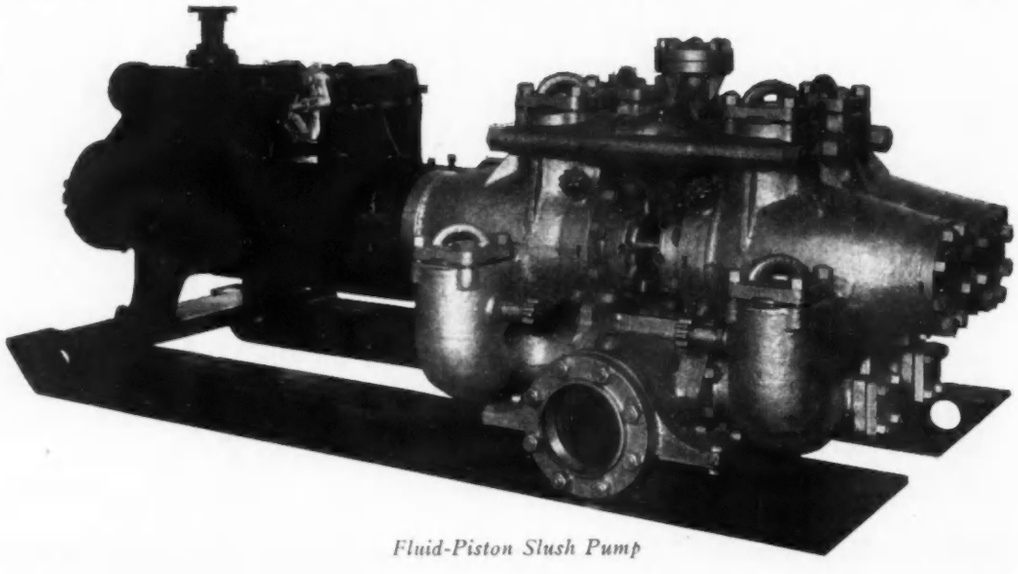
▪ *Tubular Products*

Jones & Laughlin Steel Corporation, Pittsburgh, Pennsylvania, is showing samples of its complete line of seamless and welded tubular products, with emphasis on J & L hot rolled seamless steel boiler tubes, J & L seamless drill pipe and J & L seamless casing tubing. The exhibit is presented in two of the spaces in the general exhibit sponsored by the Norvell-Wilder Supply Company, distributors of Jones & Laughlin tubular products.

In addition to samples of J & L drill pipe, casing and tubing, Jones & Laughlin has an exhibit showing the various stages through which J & L seamless tubing passes, from the solid billet from which it is pierced to the finished product.

J & L hot rolled seamless boiler tubes are shown in a manner that demonstrates the smoothness of inside surface and the ductility and easy working qualities of this J & L product.

The general line of J & L tubular products is represented by a display of 34 pieces of Jones & Laughlin pipe, both welded and seamless, showing different sizes and weights from ½ inch to 4 inches in diameter.



Fluid-Piston Slush Pump

More Evidence in Favor of Chester

Up hill and down dale — around corners, over rock barriers — now trestled in the air, now buried in mud — winding, twisting but always moving ahead, Chester Line Pipe "delivers the goods."

Cost figures, based on the major factors of price, installation and maintenance, will prove conclusively the economy of Chester Pipe.

Rigid inspections before shipping assure you of high standards of quality and workmanship — adequate stocks at strategic warehousing points guarantee the quick delivery of the pipe you want. In other words, try Chester on your next job and forget your pipe worries.

Chester also makes "Wrought Iron" pipe — manufactured from genuine old-fashioned hand puddled muck bar made in our own mills from 100% pig iron.

SOUTH CHESTER TUBE COMPANY, Chester, Pa.

District Sales Managers

W. E. Gibson: 801 Columbia Bank Bldg., Pittsburgh, Pa.

H. A. Morse: 30 Church St., New York City, N. Y.

J. P. Cooney: 715-716 A. G. Bartlett Bldg., Los Angeles, Calif.

J. P. Steele: 217 Petroleum Bldg., Ft. Worth, Texas.

District Offices

J. D. Swartz: 1231 S. Evanston Street, Tulsa, Oklahoma.

E. L. Moseley: 2216 Mills St., Houston, Texas.

Burt S. Shafer, Southwest Representative: 4313 Fairfax Ave., Dallas, Texas or 217 Petroleum Bldg., Ft. Worth, Texas.

District Warehouses

Houston, Texas; Thenard, Calif.; San Francisco, Calif.

Distributors

United Pipe & Supply Co., Charleston, Danville, West Hamlin, W. Va.; Paintsville, Ashland, Allen, Prestonburg, Ky.

Prichard Supply Co., Manningston, W. Va.; Mather and Waynesburg, Pa.

LeValley, McLeod, Kinkaid Co., Inc., Elmira and Olean, N. Y.

Kane Supply Company, Kane, Lawrenceville, Brookville, Pa.

Bovaird & Co., Bradford, Pa.

Pelican Well Tool & Supply Co., Shreveport, La., Kilgore, Texas.

Great Northern Tool & Supply Co., Billings and Kevin, Mont., Kemmerer and Cody, Wyo.

Star Drilling Machine Co., 550 Clinton Street, Portland, Oregon and Akron, Ohio.

Stephen H. McCabe, 508—4th St., San Francisco, Calif.

Bardo Steel Company, Seattle, Wash., and Portland, Oregon.

Union Supply Corp., Sulphur, La., and Brimstone, La.

Dunigan Tool & Supply Company, Main office, Breckenridge, Texas. Branch stores, Willow Springs, Pampa, Turnertown, McCamey, Texas and Hobbs, New Mexico.

CHESTER

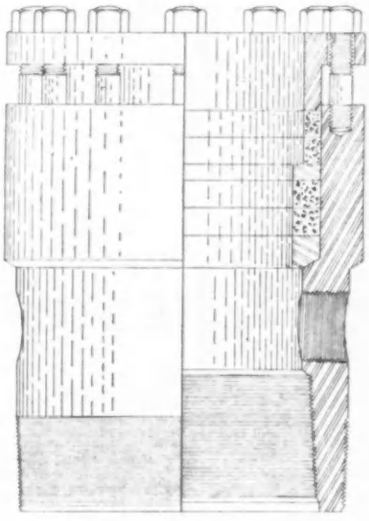
LINE PIPE AND STEEL CASING

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Oil Tool Manufacturing Company

▪ *Casing Head*

Oil Tool Manufacturing Company, Houston, is displaying its line of all forged steel casing or bradenheads, which consist of a main body, junk rings, packing element and top flanged split gland

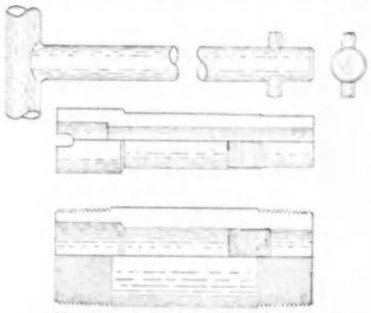


Oil Tool Casing Head

bolted with studs. These heads are made in two types for packing off casing or casing and casing collar. The casing collar type is repackable under pressure. Hydraulic or asbestos packing is furnished. They are made in sizes up to 16 inches and tested to 6000 pounds.

▪ *Changeable Chocker Nipple*

This is a combination changeable flow chocker nipple assembly, consisting of a flow bean cage nipple, changeable flow bean insert and tee wrench for screwing



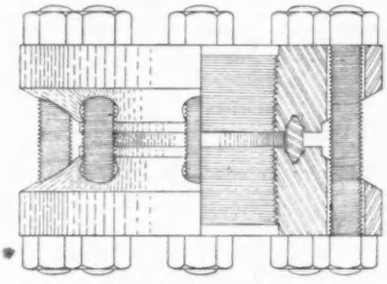
Changeable Chocker Nipple

in and backing out flow bean. Flow bean inserts are counterbored and slotted in the ends to receive wrench and are made either from heat-treated or not heat-treated steel, as desired.

The cage nipple is installed in a flow line, usually in a cross or tee opposite a bull plug, or in a union where, with an assortment of flow beans with various size flow orifices, the flow bean may be conveniently and readily changed or renewed as often as desired without breaking out the cage nipple. Made in sizes from one inch to seven inches outside diameter with any size orifice desired. High forged steel, accurately machined, is used in making this assembly, in which all inside and outside parts are interchangeable.

▪ *Hydraulic Flange Union*

Oil Tool Manufacturing Company hydraulic flange unions are of bolted flange construction, made of high grade forged steel, accurately machined with lathe cut threads. They are designed for strength with a high safety factor against flange

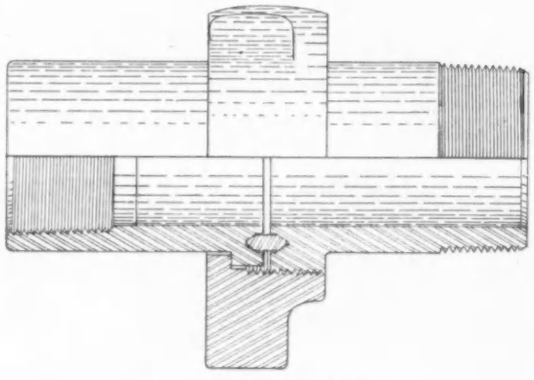


Hydraulic Flange Union

deflection, stronger than the pipe itself, bolted with high tensile alloy steel studs or bolts optional, sealed with copper-aluminum alloy, bronze or steel seat ring gasket. Made in size 1¼ inches to six inches and for working pressures ranging from 1000 pounds to 16,000 pounds.

▪ *Oil Tool Wing Union*

This is a screwed type wing union. The wing nut and sub construction are of forged and chrome nickel steel, accurately machined with lathe cut threads, sealed with copper-aluminum alloy, bronze or steel seat ring gasket, with long hub for chain tongs and wing nut tightened by hammer. This union expedites the assembly and disassembly of connections and gives a tight leak-proof connection. Made in sizes from one inch to six inches male, female or combination male and female threads. Tested to 4000 pounds pressure.



Oil Tool Wing Union

Kerotest Manufacturing Company

▪ *Drilling and Flow Line Valves*

Kerotest Manufacturing Company, Pittsburg, Pennsylvania, exhibiting with Norvell-Wilder Supply Company, is displaying a complete line of drilling valves and flow line valves, ranging in pressure capacities from 500 pounds per square inch working pressure to 3000 pounds per square inch. These valves are the positive sealing type with accurately fit wedges and seats, made of alloy steel and heat treated with a differential brinnel hardness in order that positive seating may be had without galling.

▪ *Engine Throttle Valve*

Another Kerotest product on display at Norvell-Wilder booths is the new balanced cast steel engine throttle valve. This valve is built so that the steam pressure is both over and below the seats, thereby making it easy to operate.

▪ *Christmas Tree Fittings*

Cast and forged steel fittings for Christmas trees, and flow line connections are also being shown by Kerotest.

Patterson-Ballagh Corporation, Ltd.

▪ *Casing Protectors*

Patterson-Ballagh Corporation, Los Angeles, California, is exhibiting its all rubber casing protectors. This is the pioneer protector used to prevent wear between the drill pipe and the casing.

The manufacturers claim it will increase tremendously the life of the drill pipe and decrease operating costs.

These protectors are made in short or regular styles, and in the extra long lengths and super-size called the "Stabilizer." Installation of these protectors is with an expanding device developed by Patterson-Ballagh.

These casing protectors are on exhibit at Bettis Sales Company booth.

QUALITY

In every industry there is some one product that by sheer merit and outstanding quality and performance is accepted as the standard by which other similar products may be judged. Such is the Darling Gate Valve.

DARLING VALVE & MFG. CO.
WILLIAMSPORT, PA.

New York Oklahoma City Houston

Mid-Continent Distributors:
International Supply Company,
Moorlane Company.

California Distributors:
Hickey Pipe & Supply Co.,
3375 East Slauson Ave.,
Los Angeles, Calif.

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DARLING
GATE VALVES

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

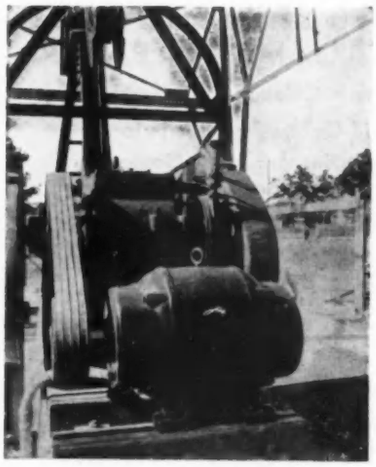
The Louis Allis Company

The Louis Allis Company, Milwaukee, Wis., for whom Brance-Krachy Company, Inc., Houston, Texas, is Gulf Coast distributor, is featuring its line of splash-proof and explosion-proof electric motors.

▪ *Splash-Proof Motors*

Louis Allis splash-proof motors are designed and built especially for use where the motor is subjected to large quantities of moisture, dripping or splashing water. They are protected from moisture by a double baffle in the elliptical-shaped air passage in each endbell. This construction, while permitting free passage of ventilating air, traps and drains the water splashed into the air openings. Aside from these air openings the motor is fully enclosed.

They are of all cast iron construction and are available in single or multi-speed squirrel-cage and slip-ring alternating current, also direct current



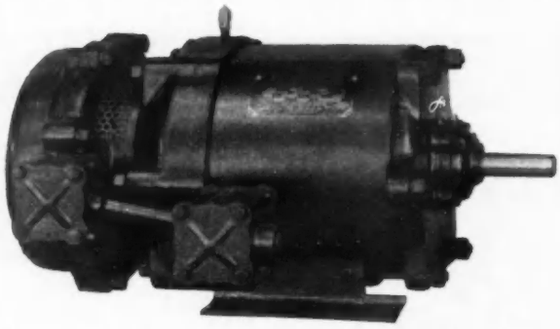
Louis Allis Splash-Proof Motor driving Pumping Rig

types for any commercial current characteristics. Available in sizes one half horsepower to 40 horsepower, also in capacitor single phase type one-fourth to three horsepower.

▪ *Explosion-Proof Motors*

Louis Allis self-ventilated, squirrel cage, explosion-proof motors are designed and built for safe operation in all Class 1, Group D explosive atmospheres.

A feature of the company's line of explosion-proof motors is the newly introduced single phase, explosion-proof, self-contained capacitor motor. It has no brushes to inspect or replace, no capacitors to mount outside the explosive zone and no extra wiring expense. The capacitor is self-contained within the motor. Simple positive-acting switch cuts out capacitor at definite predetermined speed. It is available at



Louis Allis Single-Phase, Explosion-Proof, Self-Contained Capacitor Motor

present in non-ventilated type from one-half to one horsepower and in totally enclosed fan-cooled type from 1½ to three horsepower, connectable externally for either 110 to 220 volts.

The Linde Air Products Company

▪ *Welding and Cutting Equipment*

The Linde Air Products Company is displaying a complete line of welding and cutting equipment, together with Linde Oxygen, Prest-O-Lite Acetylene, Union Carbide, as used for oxwelding and cut-

Everything for Oxwelding and Cutting

ting on oil and gas pipe lines and also for the application of Haynes Stellite and Haystellite inserts for hard-facing of drilling bits.

As a special feature, the new three-flame hand Lindewelder, which has been adding to the speed and low cost of installing Lindewelded pipe lines, is shown.

American Sand-Banum Company, Inc.

▪ *Boiler Compound*

American Sand-Banum Company, Inc., 342 Madison Avenue, New York, N. Y., is displaying its Sand-Banum boiler compound, which actually controls boiler scale by preventing its formation and by removing scale that has already formed.

Sand-Banum is guaranteed to be absolutely harmless and may be used without any danger of injury to boilers, tubes, packings, etc. It is also guaranteed to be

Can of Sand-Banum Boiler Compound

free from ammonia, graphite, water-glass, soda, lye, acid, potash or chloride.

It is delivered ready for use. There is no titrating or mixing of solutions to be done, nor is any special apparatus necessary for its application. It is poured from the can into the boiler.

Sand-Banum boiler compound does not react in a chemical sense with the feed water. It covers the interior of the shell, tubes and all parts with which the water or steam comes in contact, with a coating so thin that it is invisible.

▪ *Sand-Banum Blue Seal Emulsion*

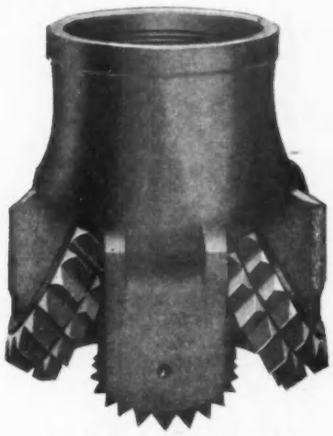
This emulsion is for the prevention and removal of scale and corrosion from water cooling systems. It both eliminates present scale and prevents new scale and corrosion from forming in interior surfaces of heads and jackets of internal combustion engines, compressors, etc. It is based on the same formulas and patents as Sand-Banum boiler compound and carries the same guarantee of "satisfaction or it costs nothing."

Reed Roller Bit Company

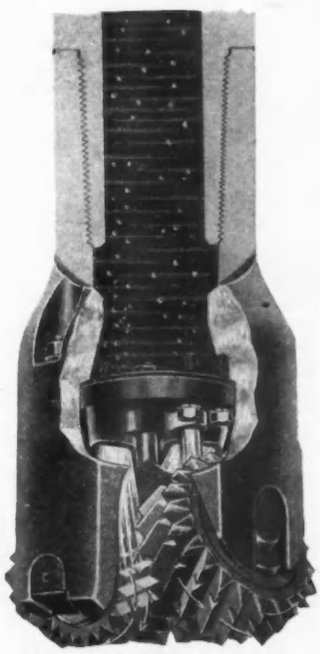
The Reed Roller Bit Company, Houston, Texas, has on display a complete line of rotary drill bits and special tools. The following descriptions describe most of the products the company has on exhibit.

▪ *Reed Rock Bits*

The Reed sport model roller bearing rock bit is the latest development of the Reed Roller Bit Company. In this bit, the cutter assembly is welded into and made integral with the bit head. This bit is made with either box or pin connection, so that it can be attached directly to or run under rotary reamers or drill collars with either box or pin connections



Reed Rock Bit With Pin Connection



Type 31 Bit Head Complete With Cutters

down. There are several different designs of cutters and cutter assemblies available in the Reed sport model bit. It has been developed by the Reed Roller Bit Company that to drill most efficiently, the many different formations encountered, different cutter action is required.

The Reed type 31 roller bearing bit has the bolted in cutter assembly that is of advantage in the larger sizes of bits. The bit head can be redressed on the derrick floor with the necessity only for transporting the cutter assembly. Also, this type of bit head has a replaceable wash plate that can be readily renewed after the old one has become badly slush cut.

▪ *Reamer Guide*

The Reed type 33 reamer guide is one of the latest developments of rotary reamers and straight hole guides. The reamer bodies are forged of chrome-nickel alloy steel and heat-treated. Upper and lower connections are forged integral and heat-treated to tool joint hardness, so that the connection has tool joint efficiency. Ample tong space is provided at both upper and lower ends. Ample elevator and slipping space is provided to permit reamer guide to be used in deep rotaries. The reamer cutters in the lower section are tapered for bringing the hole out to gage. The reamer cutters in the upper section are parallel to the wall of the hole which gives extra long rolling contacts for straight hole guide action.

Type 36 Bit Reamer

▪ *Reed Reamers*

The type 34 six-way reamer has six staggered all tapered reamer cutters. The reamer pin bearing blocks are made separately, hardened and imbedded in the reamer body by fitting closely and welding in place. The new reamer pin construction is such that both ends of the reamer pin are locked and held rigidly in the bearing blocks in such a way that rocking and chattering of the reamer pins is prevented. With the holding of the reamer pins rigidly in position, wear of the bearing blocks is very materially reduced.

Type 33 Reamer Guide

The Six-Way Reamer

The Reed type 35 three-way reamer has all the structural features of the type 34 reamer and is most generally used immediately above the drilling bit to keep the latter centered in the hole, to stiffen the drill stem and to concentrate weight on the drilling bit.

Reed types 33, 34 and 35 reamers are constructed with links so that they are

Leading oil field equipment sold on the Gulf Coast by

WILSON SUPPLY COMPANY

to be exhibited at the Show . . . HOUSTON April 16 to 21

AMERICAN CABLE CO.

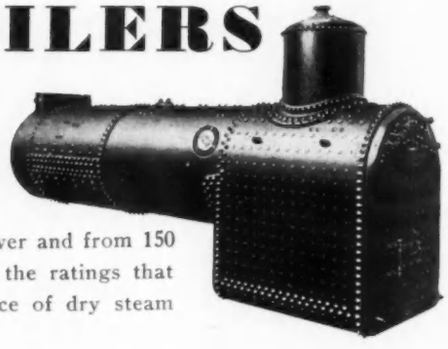
Tru-Lay
PRE-FORMED WIRE-ROPE

● In this wire rope every individual strand carries its full share of the load. This is the result of laying the strands together AFTER they have been given a helical shape, thereby eliminating internal stress and creating perfect coordination between all strands. These superior cables have many advantages over every non-preformed rope of the same size, type, grade and construction.

SIEVERS REAMER

makes straighter hole, gives better core recovery, permits closer allowable tolerances between hole and casing; decreases wear on drilling equipment and lowers operating cost with greater safety. With knife-like action the three cutters on Sievers Reamers CUT away the wall, cleanly and smoothly. Hundreds who have used this reamer say it surpasses any other on the market.

KEWANEE BOILERS



Kewanee Boilers are built of the finest steel plates, skilfully riveted together, according to the Kewanee standard of workmanship, which is the result of 45 years of steel boiler building.

Kewanee Boilers range in size from 50 to 125 horsepower and from 150 to 350 pounds working pressure. So conservative are the ratings that even when pushed beyond 100% capacity an abundance of dry steam flows from the capacious dome.

Exclusive Gulf Coast sales and service by

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1412 Maury St.
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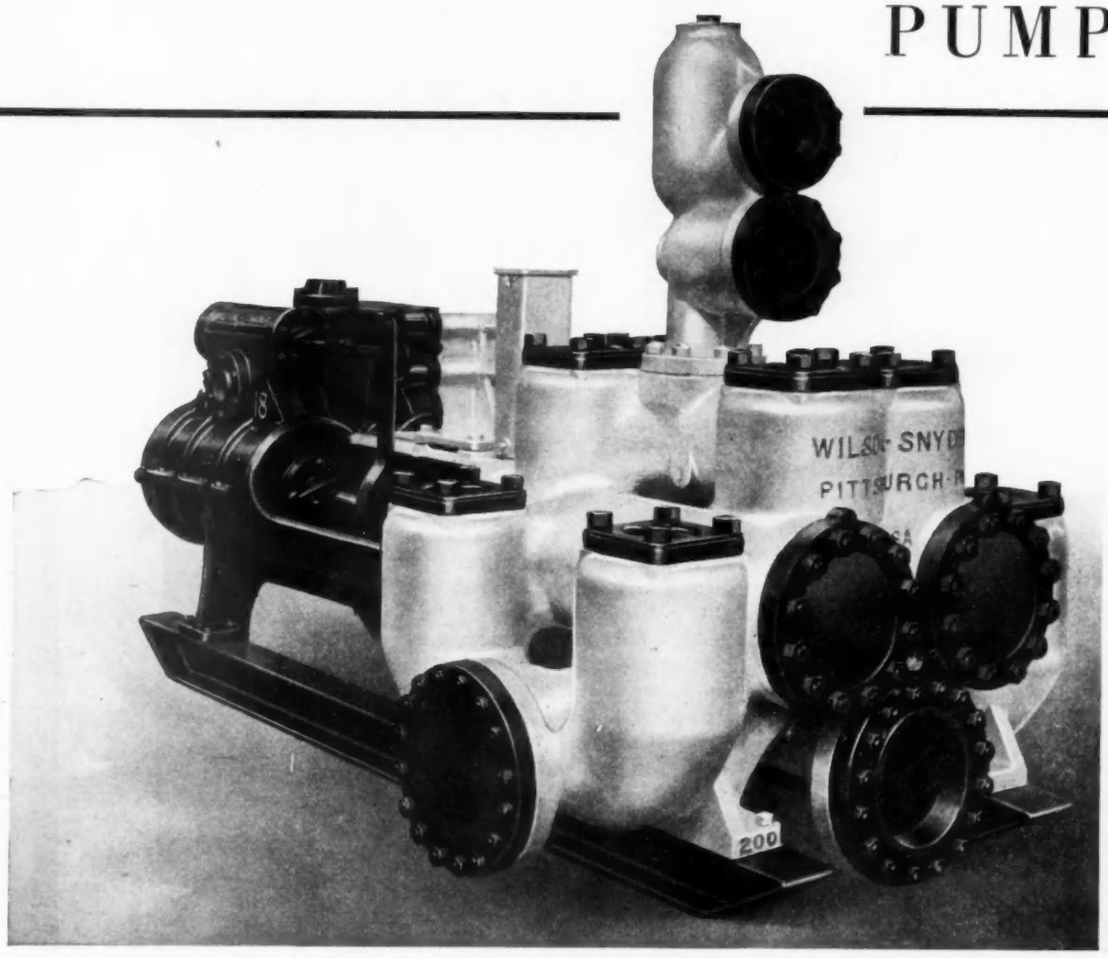
OIL AND GAS

WILSON-SNYDER

New Combination

END AND SIDE SUCTION PUMP



ON DISPLAY AT THE OIL ENGINEERING AND EQUIPMENT EXPOSITION, HOUSTON, APRIL 16 TO 21

Again, the Wilson-Snyder Corporation has drawn upon its 50 years of pump manufacturing experience to give the Oil Industry greater slush pump efficiency. This new pump has 3 suction openings, so that it may take its suction from either side or end. This makes possible more convenient compounding, setting-up and the elimination of elbows in suction line. The additional end suction is the only change made on the No. 18, a 3000 pound pump, which means that earlier models are not made obsolete by this improvement.

Exclusive Gulf Coast sales and service by

PLY COMPANY

WELL SUPPLIES

BRANCHES
Barbers Hill, Kilgore, Greta, Gladewater and Tomball, Texas; Shreveport and Lake Charles, La.

drill collars as well as reamers and straight hole guides.

Reed type 36 and Reed type 37 reamers are short bit reamers that carry reamer cutters identical with type 35 reamers and function, when drilling, to ream the hole to gage and guide the bit, as does the type 35 reamer. The type 36 bit reamer has a pin down for taking drilling bits with box connections, and the type 37 short reamer has a box down for taking drilling bits with pin connections. The short bit reamer is a low-priced reamer.

Reed Drill Collar

▪ *Drill Collars*

Reed drill collars are forged from selected chrome-nickel alloy steel, of the same high quality and toughness used in the manufacture of Reed reamers and Reed tool joints.

▪ *Casing Roller*

The Reed casing roller is a frequently used tool for rolling out collapsed casing.

▪ *Replaceable Blade Fish Tail Bit*

In the Reed replaceable blade fish tail bit the bit heads are forged of high quality heat-treated alloy steel. The bit blades are

Replaceable Blade Fish Tail Bit

drop forged from chrome-nickel alloy steel with hard surface of Reedite, a hard Tungstine carbide. The forged steel blades are extremely durable, and are sold at prices equal to the cost of redressing ordinary fish tail bits. The water courses are located in such a way that the mud stream impinges directly onto the cutting edges of the blade to keep the blade washed clean at all times even in drilling sticky formations.

▪ *Basket Bit*

Reed Basket Bit

The Reed basket bit is designed for cleaning holes of junk. In this tool, the functions of the mill rat trap basket and the drilling bit are combined. The cutter assembly is welded into the bit head for cutting up junk more rapidly than does the ordinary mill; the basket being open entirely around the shaft or stem of the bit catches the pieces of junk that are pumped upwardly in the mud stream.

▪ *Tool Joint*

The Reed full hole tool joint has a full opening practically equal to the hole at the end of the drill pipe to permit an unrestricted flow of the mud stream. Use of this tool joint, according to the manufacturer, allows the mud pumps to operate at low pressures, resulting in lessened pump upkeep costs, and as tool joint restrictions to flow are eliminated the mud stream is delivered to the drilling bit at high pressures, which increases the bit efficiency and materially increases the drilling speed.

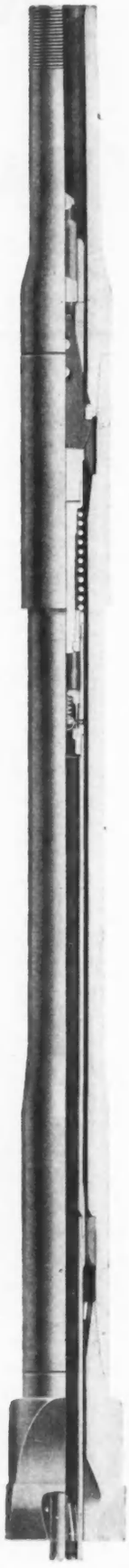
▪ *Core Drill*

The Reed model B core drill is the latest improvement in core drills by the Reed Roller Bit Company. This core drill for coring either hard or soft formations is designed to cut larger cores, thereby allowing for increased core recovery. The construction of these core drills has been simplified, in which all features influencing efficient core recovery have been included. The hard formation cutter heads, dressed with Reedite, have cutters made integral. Reed model B core drills are furnished in styles known as regular hard formation, hard formation with reamer and soft formation drills.

▪ *Drilling-Coring Bits*

The Reed Barrett-Robishaw drilling-coring bit is a tool used where economical coring is required when drilling in formations such as can be drilled with fish tail or drag type drilling bits. A particular advantage is that cores can be taken

Hard Formation Core Drill Complete With Reamer.



Right: Sectional View of Drilling Bit, Drill Collar and Sub, With Core Barrel Assembly in Place

Ten Climax-equipped Chrysler CM oil pumping engines sold by Frazier-Wright, Ltd., Los Angeles, to Doyle Petroleum Co. to replace steam on their Maricopa lease. Wells are 3200 to 3600 feet. Load averages 11 h.p. Timken worm gives 8½ to 1 reduction, 12-inch belt gives further 7 to 1 reduction to 20 strokes of the pump at 1000 engine speed. Water and oil temperature is thermostatically controlled at 165 deg. with atmosphere at 100 deg. and higher.

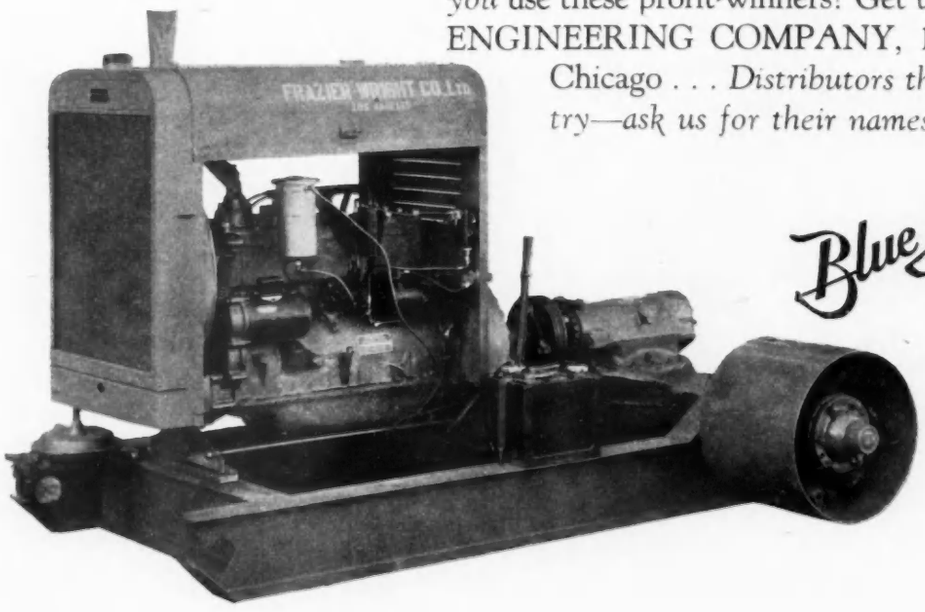
Doyle Scraps Steam, Saves $800 per Month with *Chrysler-Blue Streaks*

Saving money is a lot easier than making it. The Doyle Petroleum Company is doing that on their Maricopa lease. They turned from steam to ten Climax equipped Chrysler Model CM oil well pumping engines. The monthly saving over steam is $800. The engines will pay off in 10 months, and put $800 in the bank every month for a long time after that.

The practical advantages of these sturdy Climax-equipped Chrysler pumping engines over electric power and heavy type engines are being proved daily. Couldn't *you* use these profit-winners? Get the facts! . . . CLIMAX ENGINEERING COMPANY, 111 West Monroe St., Chicago . . . *Distributors throughout the oil country—ask us for their names.*

The Engine That's Knocking the Spots Out of Pumping Cost

These sturdy power units come in sizes and with equipment for every pump job . . . Have ample reserve power at low speed . . . Power is steady flow of light impulses, resulting in least rod embrittlement . . . Easy to install and move . . . Have pressure lubrication . . . Tungsten inserted valve seats . . . High compression heads . . . Are completely equipped.



Blue Streak

Natural Gas, Gasoline, Butane and Distillate Engines

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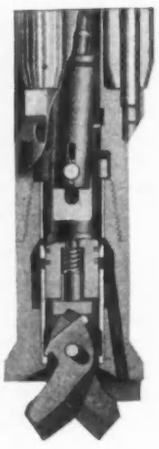
without removing the drill stem from the hole. The core barrel is dropped down through the drill stem and seats within the drilling bit and drill collar with the cutter head protruding through the drilling bit. After the core is cut, the core barrel is recovered with a wire line up through the drill stem.



Blades Automatically Expand As They Pass Through Bit Head

The Reed wire line drilling-core bit is constructed so that the drilling blades and the core barrel are exchanged or renewed through the drill stem without pulling the drill pipe. This drill can be used on regular internal upset drill pipe equipped with full hole tool joints. One of the outstanding successful applications of this drilling bit has been its use in drilling through and setting casing in heaving shale. For drilling through heaving shale, external upset casing is used as drill pipe which is never removed from the hole once the heaving shale formation is encountered. When the casing seat is reached, the bit blades and carrier body are removed up through the drill stem, and the bit head, which is of special design in having a large bore of inside opening, is set and cemented as a casing shoe.

E. M. Smith Company

▪ *Grizzly Drill Pipe Protectors*

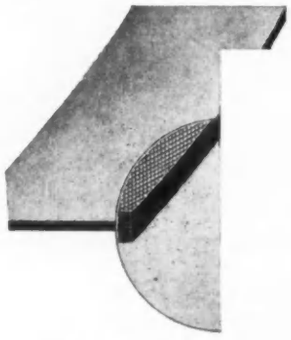
E. M. Smith Company, Los Angeles, California, is exhibiting its Grizzly drill pipe protectors, which are distributed in the Gulf Coast by T. T. Word Supply Company, Inc., Houston, and export distributors are Continental Emsco Company, Inc., New York City.

The drill pipe protector has a strong malleable iron cage that reinforces and protects the rubber bumpers and body against damage or deterioration. A tapered key and perfected locking arrangement provides a vise-like grop evenly around the entire circumference of the pipe. Wide solid rubber bumpers and body are made flat in one piece of special compounded rubber, with steel reinforcing base next to pipe and extra large double circulation passages.

Grizzly Drill Pipe Protector

▪ *Grizzly Raw Edge Belting*

Grizzly raw edge belting is made for heavy duty pumping and drilling service. The plies have a tensile strength of approximately 400 pounds per inch per ply; the friction between plies has a pull of 35 pounds per inch, and contains an antioxident that prevents drying out. All standard sizes and plies are carried in stock.



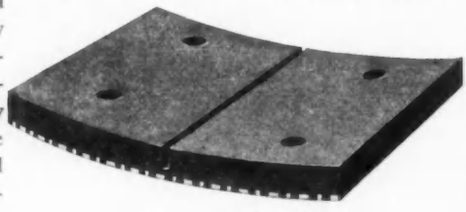
Grizzly Raw Edge Belting

▪ *Grizzly Rotary Hose*

This hose is of good quality constructed from the finest materials and is recommended for all ordinary drilling conditions.

▪ *Grizzly Brake Blocks*

These brake blocks are made from a special asbestos-friction compounded material, containing no rubber or wire yarns; and no plies or laminations to separate or roll up. A solid semi-rigid, homogeneous body, full-moulded under tons of pressure, and cured oversize; then ground to exact size and thickness. Manufacturers claim it is highly impervious to oil and moisture and that it will withstand direct heat of 1000°F. without showing any tendency to run, swell or lose friction.

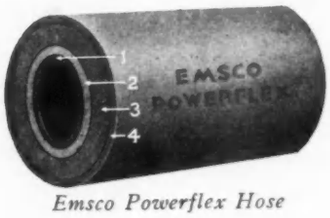


Grizzly Brake Blocks

The section of the Grizzly brake block illustrated shows the wire grid back that serves as a foundation binder, giving strong support to drum connections; and the extra thick body.

▪ *Emsco Powerflex Hose*

This rotary hose is of strong, tough, flexible design that is tested under actual operating conditions to more than 7000 pounds pressure.



Emsco Powerflex Hose

The cross section here shows the construction features of Emsco Powerflex hose: 1—Large tube of tough oil-proof rubber, with full 2½-inch opening; 2—multiple plies of quality woven fabric; 3—special Emsco steel armor that gives resistance to high pressures; 4—tough protective cover of extra-heavy friction duck.

▪ *Turley Rotary Hose Coupling*

The Turley rotary hose coupling serves the dual purpose of a coupling and protective sleeve. It is easily and quickly installed without expanders, injectors or other auxiliary equipment. The sectional view shows how the hose is held securely between slips and nipple within the outer sleeve. The design is such that any internal pressure is exerted into the clamp, forcing the hose more firmly into the coupling rather than out of it. It is recommended for all types of rotary hose.

Turley Rotary Hose Coupling

Preforming Makes a Good Rotary Drilling Line Even Better

A "Flex-Set" Preformed Yellow Strand Rotary Drilling Line is a super-rope to start with. Freed of Internal Stress by preforming, it—

1. Is "pre-broken in." Limbered up. Wires and strands already adjusted to one another.
2. Is easier to handle. Takes less time to install, to socket, to splice, thereby saving money.
3. Has less internal friction.
4. Is more resistant to kinking.
5. Is less apt to bird-cage.
6. Is less likely to crush on drum.
7. Gets less external wear because it does not twist in grooves of sheaves.
8. Won't wicker. Broken wires lie flat. No damage to adjacent wires, to sheaves, to drum, to driller.
9. Works ideally with independent wire rope center.
10. LASTS LONGER — increased service far in excess of slight additional cost.

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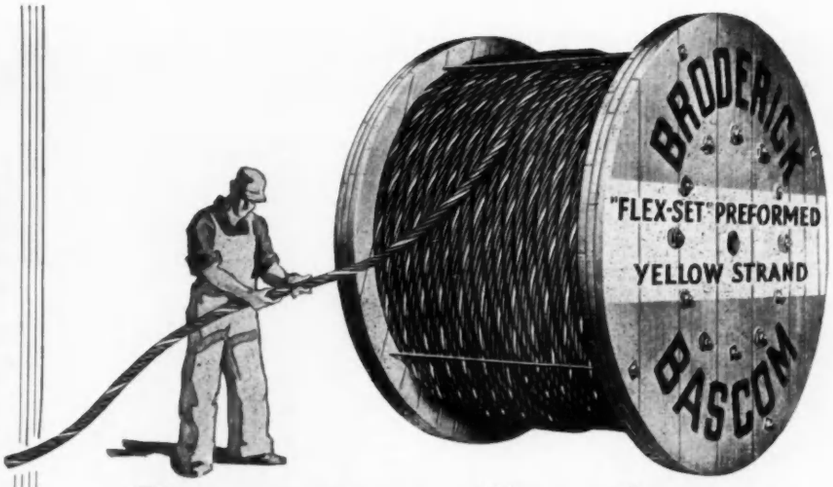


Greater Savings Than Ever

for oil men, since "FLEX-SET" Preformed Yellow Strand Rotary Drilling Lines have appeared. Same supreme grade of steel wire as in standard Yellow Strand. Same rigid tests. Same selecting of individual wires to produce a rope evenly balanced in elasticity, flexibility, toughness, tensile strength.

In addition, there are *ten distinct improvements*, any one of which makes it worth your while to use "Flex-Set". (See panel)

The added "ton-miles" of service built into the line by preforming makes "Flex-Set" Yellow Strand the last word in economy.

The Continental Supply Co.

are distributors of Broderick & Bascom Oil Field Lines in all Mid-Continent Fields. All stores carry ample stocks of "Flex-Set" Preformed Yellow Strand Rotary Lines and other excellent B & B products.

Give Continental men an opportunity to show you why Yellow Strand gives such excellent results.

Broderick & Bascom Rope Co., *St. Louis*

Factories: **St. Louis and Seattle**

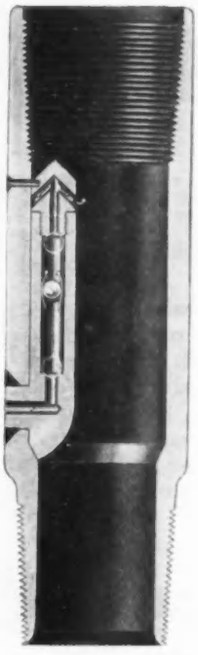
"Flex-Set" Preformed Yellow Strand Rotary Drilling Lines

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Western Pneumatic Co.

▪ ***Flow Valves***

Western Pneumatic Company, San Antonio, Texas, is displaying its flow valves, which are simple and effective gas lift units.

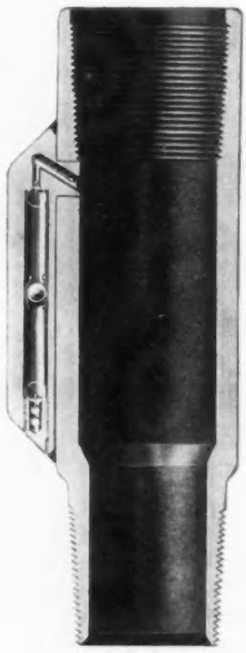


Inside Type Flow Valve

The company manufactures two styles of flow valves, namely: inside and outside types. The operation of both valves is identical. The inside valve is adapted to use inside small casing where air or gas is available. The outside type is used on any kind of well but particularly in wildcat or other wells where no air or gas is available and it is necessary to swab tubing to bring in the well.

The construction of these valves is such that a downward slope of the gas passage prevents sediment settling in them when tubing is being swabbed. Wide and perfect seats assure a complete shut-off of gas when the valves close, which prevents gas waste and cutting away of the seats. The valve housings are of non-corrosive alloy welded to a special seamless tubing coupling and fitted with monel metal balls. Male and female threads with which the couplings are fitted eliminates the necessity of breaking off the tubing collars when running the valves.

The assembly is adapted to use with any style control head. In the assembly a check and heading valve is placed below the lowermost flow valve. Its construction is such that where wells are



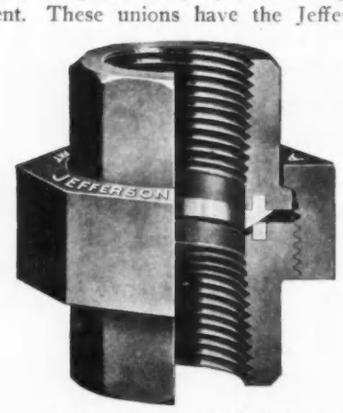
Outside Type Flow Valve

flowed artificially and the fluid output is insufficient for continuous flow, the well will flow by heads just as economically as where continuous flow is maintained. It also acts as a flow valve for aerating the column of liquid in small wells when flowing by heads. When used in combination with the pressure gauge connections at the top of the well, it gives complete manual control of the opening and closing of the valves.

Jefferson Union Company

▪ ***Unions***

Jefferson Style "A" union, manufactured by Jefferson Union Company, New York, N. Y., is on display at the Norvell-Wilder Supply Company booth. These unions are made of certified air refined malleable iron and are mixed on a formula developed through years of experiment. These unions have the Jefferson



Jefferson Style "A" Union

spherical brass-to-iron joint, or iron-to-iron when specified. The seats are ground together to exactly the same radius. The brass seat ring is inserted under heavy rolling pressure. The ball joint permits joining the pipe ends not in true alignment.

▪ ***Jefferson Flange Unions***

These flange unions are made of non-porous certified air refined malleable. They are made in sizes from one half inch to 12 inches and for low pressures up to 2500 pounds.

The three-part Style "B" union is a brass-to-iron ground ball joint type with one loose flange, which permits bolt holes to be brought opposite each other without effort or time loss.

Style "E" Flange Union

The two-part style "D" flange union has a ground ball brass-to-iron seat, recommended from 500 to 1600 pound oil, gas or water, depending on size.

The two-part style "E" flange is the same as style "D," except that the dimensions are heavier. It is recommended for pressures from 1000 to 2500 pounds. In this, as well as in all other Jefferson Flange Unions, the bolts are of heat-treated alloy steel.

Pyrene Manufacturing Company

▪ ***Foam Generator***

The Phomene hopper, a continuous foam generator embodying new ideas of design and construction, and announced recently by the Pyrene Manufacturing Company, Newark, New Jersey, is on exhibit. The manufacturers claim for their product an unusual simplicity, sturdiness and performance.

It is a device for converting a fire line from a continuous water stream to a continuous foam stream. This unit is coupled into a hose line. Water enters at one side; Phomene powder is poured in the hopper and foam is discharged through the hose line at the other side of the unit. The Phomene hopper is designed for fire department and industrial service wherever quantities of flammable liquids are used or stored. The foam blankets burning liquids and solids, and smothers the fire quickly.

The Phomene hopper has no levers, valves, gauges or moving parts. It is a complete unit built ready for use. There are no parts to be assembled. The base

WORLD'S RECORDS won with PATTERSON-BALLAGH PROTECTORS

The majority of all deep wells throughout the world now drilling are equipped with Patterson-Ballagh Protectors. The deepest wells drilled to date, the heaviest strings of pipe and casing and other drilling records have been made, practically without exception, with the aid of these Protectors. The universal acceptance of the product over a period of seven years indicates its high excellence and success. The new, extra-long Protectors, introduced by Patterson-Ballagh are the popular choice of drilling engineers in every field. They assure longest life.

—the genuine Protector
—the original Protector
—the all-rubber Protector

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PATTERSON-BALLAGH
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—and by NO OTHER NAME!

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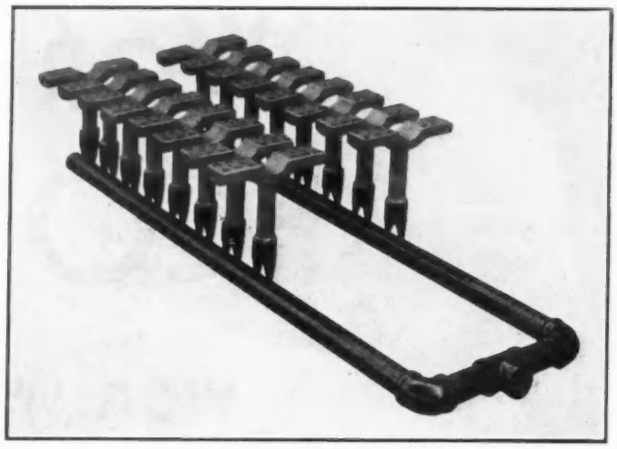
BETTIS SALES CO., 516 Merch. & Mfrs. Building, Houston
BAILEY & BECKER, 210 Tuloma Building, Tulsa

is malleable iron. The hopper and hopper bowl, cast of special composition metal, cannot be bent out of shape. Powder pails can be pounded on a slam bar to empty their contents completely. In spite of its rugged construction the unit weighs only 42 pounds and is easily carried in one hand.

It is claimed that the flow of powder is governed automatically by the pressure and amount of water available and that the device operates efficiently with water pressure as low as 35 pounds. An auxiliary water jet in the hopper (an exclusive feature) erodes the powder and flushes it into the main water stream passing through the hase.

The unit uses Phomene Hopper powder, a single powder manufactured at the company's Newark plant. The manufacturers say that this powder goes into solution and forms foam very rapidly. The foam produced is free-flowing, works its way into corners and between or over obstructions, yet is exceedingly durable.

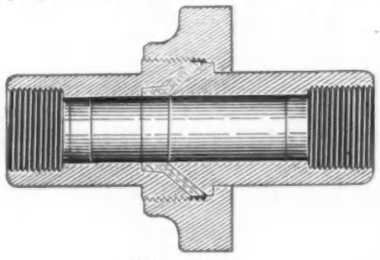


Excello Gas Burner

Oil Equipment Sales Corporation

▪ *Wing Union*

Oil Equipment Sales Corporation, Houston, Texas, is displaying the new wing union designed for speeding up assembling and dismantling connections on any assembly. The design includes subs



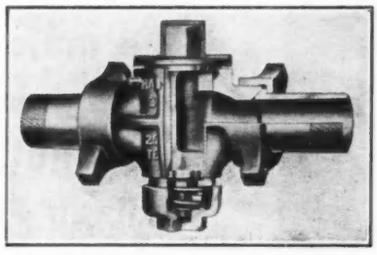
Wing Union

long enough to apply chain tongs, while the wing nut is tightened with a hammer, eliminating use of wrenches. It is all steel with replaceable bronze bushings to prevent leaking joints. It is made in sizes of 1¼-inch to four-inch, inclusive.

▪ *Gas Burner*

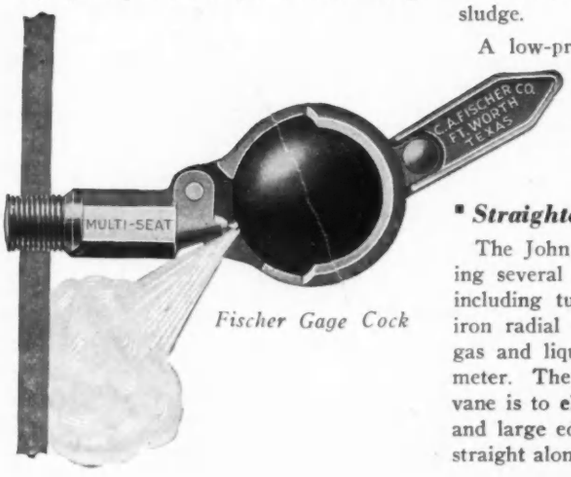
The Excello low pressure gas burner for oil field boilers is a simply constructed burner, easily installed, and requires no adjustments for proper fuel mixture. It produces a high blue flame on exceedingly low gas consumption, and fits any size of oil field boiler.

▪ *Lubricated Stop Cock*



Hamer Stop Cock

This company is also showing the Hamer lubricated stop cock which is equipped with pressure grease lubricating buttons, making operation flexible without loss of close-fitting adjustment. Wing nut and sub construction expedites building and tearing down manifold installations. A spring assembly holds the core tightly in place, and pressure seal rings



Fischer Gage Cock

are provided at the top and bottom. It is built in 500 and 2500-pound test.

▪ *Fischer Gage Cock*

The "free wheeling" Fischer gage cock, that provides thousands of seats on the large heavy lead ball is also displayed in this booth. This gage cock provides a new seat every time, and ample weight of the ball prevents leakage. Extra heavy bronze ball holders and heat treated cadmium plated hinge bolt make it non-corrosive. Steam blows away from the fireman rather than on him.

John Zink Company

▪ *Burners*

John Zink Company, 425 East 4th Street, Tulsa, Oklahoma, is exhibiting the following burners:

A short-flame (heat without flame) Bi-Mix gas burner for refinery stills, refinery boilers and gasoline plant boilers. This burner burns natural gas, residue gas, or refinery gases with a short flame without excess air. It will burn satisfactorily a wide range of varying heat value gases without adjustment.

A vertical Bi-Mix burner, special short-flame burner for oil country type boilers. This burner will burn natural gas, residue gas, or straight rectifying column vapors with a short flame. It is not damaged, nor its performance affected by slugs of oil, gasoline or water that sometimes blow through it from the fuel line of a gasoline plant.

A combination oil and gas burner for power boilers for burning fuel oil, natural gas, refinery gas, pitch and acid sludge.

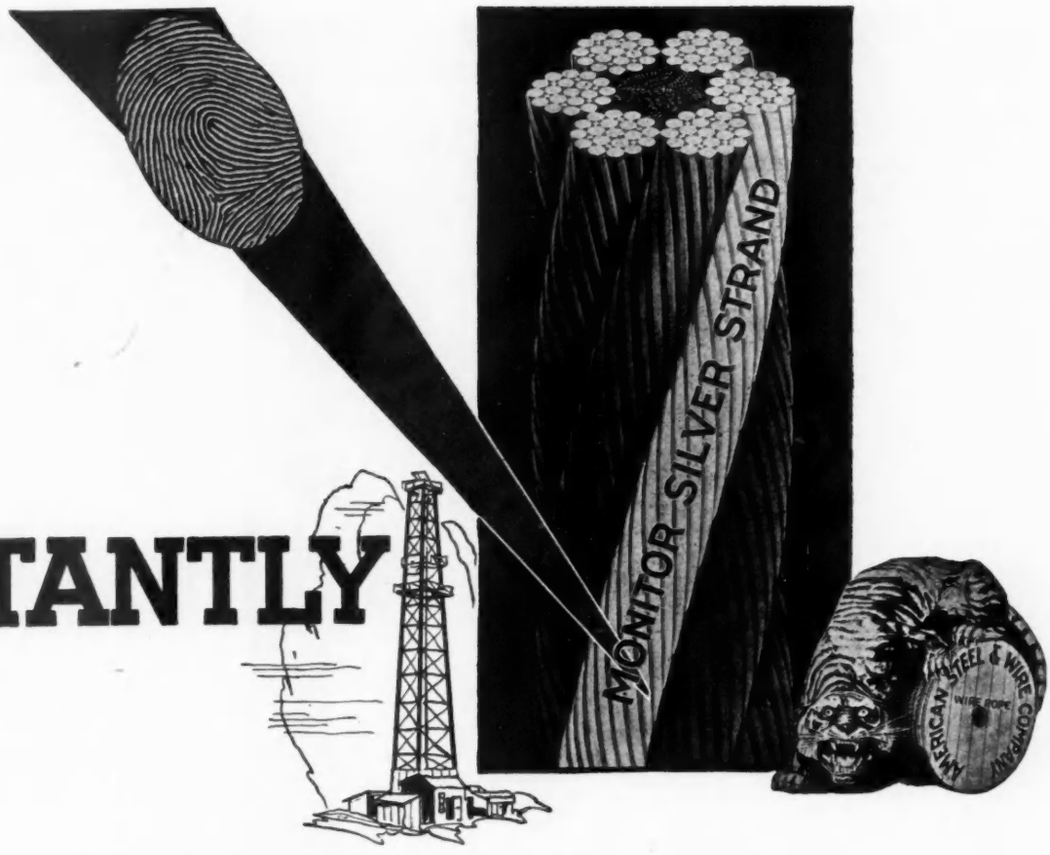
A steam atomizing burner head for fuel oil, pitch, refinery residue and acid sludge.

A low-pressure Zink Star burner for heating boilers, and small industrial boilers.

Domestic conversion furnace burner and special stove burners.

▪ *Straightening Vanes*

The John Zink Company also is showing several types of straightening vanes including tubular, Reid screen and cast iron radial wing types, for installing in gas and liquid lines ahead of an orifice meter. The purpose of a straightening vane is to eliminate whirl, cross-currents, and large eddies, and make the gas flow straight along the pipe.



INSTANTLY

A "FINGER PRINT" OF SILVER IDENTIFIES QUALITY!

FINGER PRINTS—positive identification of individual persons—find a perfect simile in the silver colored strand that runs throughout the length of American Steel & Wire Company Monitor Silver Strand Wire Lines. In this case, however, quality is the factor identified—positive assurance of superior performance and utmost economy. In Monitor Silver Strand Wire Lines—the strongest grade of steel used in wire line construction assures strength to spare. Also, of great value, are its lightness and abrasion resisting qualities.

AMERICAN STEEL & WIRE COMPANY

MONITOR

SILVER STRAND WIRE LINES

1831

1934

AMERICAN STEEL & WIRE COMPANY

208 South La Salle Street, Chicago
94 Grove Street, Worcester

SUBSIDIARY OF UNITED STATES STEEL CORPORATION
AND ALL PRINCIPAL CITIES

Empire State Building, New York
First National Bank Building, Baltimore

Pacific Coast Distributors: Columbia Steel Company, Russ Bldg., San Francisco

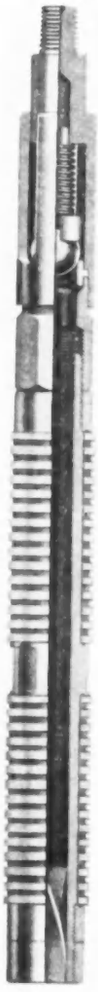
Export Distributors: United States Steel Products Company, New York

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Hall & Lowrey Iron Works Inc.

▪ *Stafix Traveling Valve*

Hall & Lowrey Iron Works, Inc., Goose Creek, Texas, is exhibiting the Stafix traveling valve, the H. & L. cutting tool and H. & L. releasing spear, all patented products.



Stafix Traveling Valve

The Stafix traveling valve is designed especially to overcome sand trouble in pumping wells. The upper end of the ball actuator is a piston working in a cylinder machined into a cage. A fluid cushion governs travel of the ball, and the actuator guides the ball directly into the seat, where it is seated by a spring. Thirty hydraulic packing rings eliminate use of cups. The packing element serves to form a lubricator, creating an eddy between packing unit and inner wall of pump. A spiral impeller forming the bottom of valve body gives a swirling motion of the fluid, rotating ball and washing sand away from the seat. This action polishes rather than scores the barrel. This pump is designed for running at a speed geared to match the well capacity, as sufficient fluid is necessary to lubricate the barrel. All connections meet A.P.I. specifications in full, and the valve is made in all required sizes.

▪ *H. & L. Cutting Tool and Spear*

The H. & L. cutting tool and spear are operated together when the operator desires to cut and pull a string of pipe on the same trip. In using this combination the spear is run on drill stem above the cutting tool, the latter being operated by pump pressure and spear operated by drill stem movement. Shutting down of pump pressure automatically retracts cutting blades, permitting tool to be raised or lowered in the hole.

All working parts of the H. & L. cutting tool are enclosed in the tool body to prevent damage in entering or removing from the hole. Full circulation is maintained during the cutting operation. No slips are used.

H. & L. Cutting Tool

Any size cutter from 2⅜-inch to 13-inch O.D. is stocked, and special sizes are made for special jobs. The H. & L. spear is made and stocked in sizes up to 7-inch O.D.

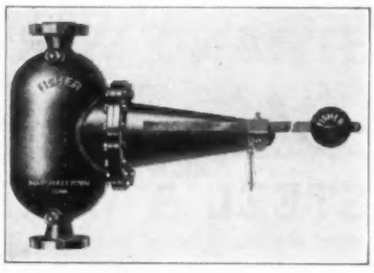
H. & L. Spear

Fisher Governor Company

▪ *Fisher Regulators*

Fisher Governor Company, Marshalltown, Iowa, is exhibiting latest improvements in automatic pressure controls and automatic mechanical level controls, designed to meet advance requirements of oil operators in the field and in the refinery.

A float cage liquid level controller, constructed of drawn and spun steel, welded according to Code requirements, is shown in section. This light weight cage embodies high strength, and also offers service for low pressure conditions where fire zone hazards must be met.



Fisher Liquid Level Controller

Gas loaded regulators, designed to give close control of gas pressures on furnaces, stills, and distribution systems, are shown in the Fisher Type 781.

An operating unit of the Fisher wizard pilot controller illustrating its efficiency and effective control, will be on display.

New diaphragm motor valve assemblies, showing the outstanding features of the Fisher tru-travel diaphragm motor, is on display. This diaphragm motor unit insures linear and uniform action, enabling unit travel of inner valve per pound change on diaphragm to be obtained.

Low pressure gas regulators of interest to the refinery and gas industry, showing outstanding renewable diaphragm assembly features, will be shown in detail.

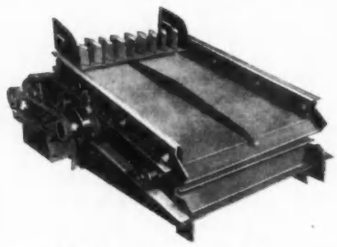
This equipment will be exhibited by M. N. Dannenbaum Company, district representatives, Booths 522, 524, 623, 625.

Link-Belt Company

▪ *Rotary Mud Vibrating Screen*

The Link-Belt vibrating screen, manufactured by Link-Belt Company, Chicago, Illinois, and distributed in the Gulf Coast by Bettis Sales Company, Houston, is a simple, rugged unit for reclaiming, degassing and cleaning rotary mud.

The screen consists of an alloy steel fine-mesh screen cloth, rubber cushioned and carried in an especially constructed screen box, which rests on four heavy springs of the scroll type, and is vibrated at high speed. It has special means for



Link-Belt Vibrating Screen

distributing the entering mud across the width of the screen at top, and collecting the screened and degassed mud in a tank below, from which it passes to the pump sump. The screen is self-contained, portable, and easily installed in the low head room usually available.

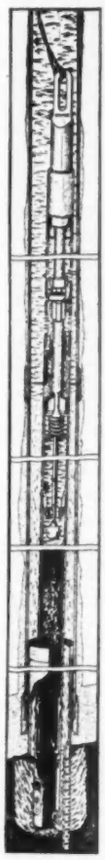
The vibrator shaft of the screen is driven from an electric motor, steam turbine, or gas engine.

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

The Cavins Company

▪ *Hydraulic Cleanout Device*

The Cavins Company, Long Beach, California, is displaying The Cavins, which is a combination bailer, fishing tool and perforation washer and cleaner. According to the manufacturer, it saves dollars in time, labor and expense as well as increases production.



Cavins Cleanout Tool

The Cavins utilizes the pressure at the bottom of the well by creating a tremendous hydraulic suction that pulls into the load chamber all loose sand, hard packed mats, pieces of rock, wood, iron and steel of any size that can pass through the bottom opening.

When used for clean-out jobs, it eliminates the necessity of spudding or running a string of tools. It can be run as soon as the tubing is pulled, operates automatically and at high speed, bringing up from 18 to 20 feet of sand or millings in the load chamber on each run.

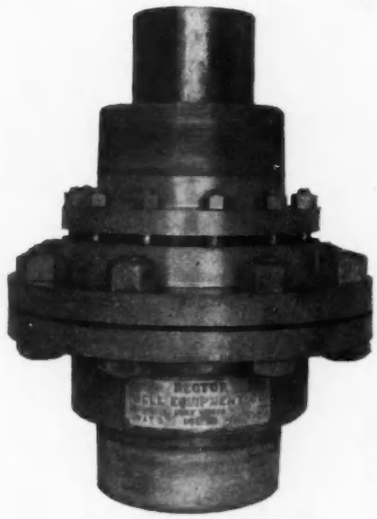
For fishing purposes a junk basket or junk tool is attached on bottom in place of the regular shoe, and recovers articles of every description that can get past the opening; in some instances, whole slips or other metal weighing as much as 40 pounds.

The enormous hydraulic suction created ed by the tool causes the fluid to wash back and forth through the perforations of the screen pipe, cleaning them thoroughly and recovering the sand from behind as well as within the liner.

Rector Well Equipment Company

▪ *Casing Heads*

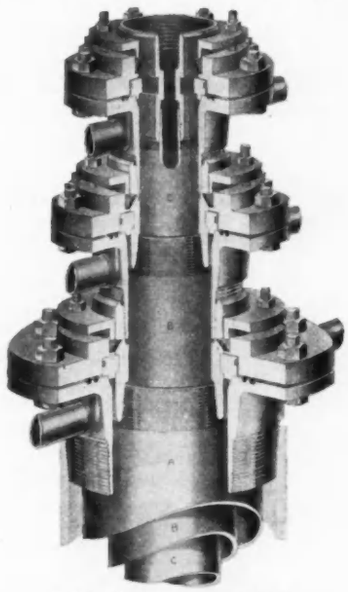
Rector Well Equipment Company, Ft. Worth, Texas, is exhibiting the complete line of Rector safety casing heads, featuring particularly the new adapter gland that carries an outside thread to provide the operator with a simple method of stabbing over and screwing on relief equipment in case the well should blow out. This adapter gland also provides a means of using



Rector Casing Head

a blowout preventer on the Rector head, after surface pipe has been run, the head being on the surface pipe before the second string of casing is run.

The Rector safety casing head is made throughout of hammer forged steel of highest quality and carefully machined. It is made in all necessary sizes for meeting exact casing reductions, and is commonly used in high pressure fields in three-section, four-string hookups, the new adapter gland, when used, being on the top section



3-Section Rector Head, with Standard Gland

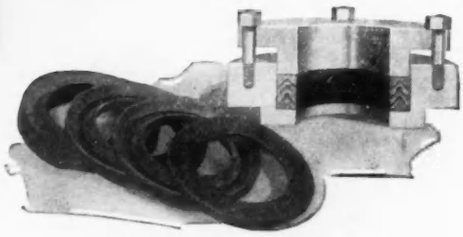
with standard gland units being used below. The threaded end of the bottom flange on these heads does not reduce the area between the casing strings, being the same size as the pipe.

The head is shown here unassembled.

The Garlock Packing Company

▪ *Garlock Guardian Gaskets*

The Garlock Packing Company, Palmyra, New York, is exhibiting its Chevron hydraulic packing material. The special duck cloth and rubber compound from which it is manufactured, are combined and molded into rings having hinge-like cross sectional shape, which



Chevron Hydraulic Packing

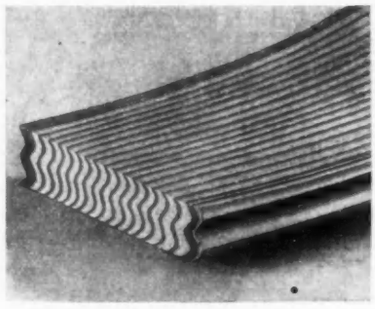
permits easy expansion and contraction with changing pressure. This action is entirely automatic.

Garlock Chevron packing is furnished in ring form only, molded to practically any rod and stuffing box size. The design of Chevron rings allows the use of a plurality of rings in a limited packing depth.

▪ *Chevron Hydraulic Packing*

Garlock Guardian Gaskets were designed and developed to meet the demand for dependable gaskets for use under severe service conditions.

These gaskets are constructed of metal and asbestos, combined in a manner that produces a gasket of great resiliency, exceptional rebound and unusual rugged-



Garlock Guardian Gaskets

ness. The metal strip used in these gaskets is formed into a shape resembling somewhat the letter M with rounded angles. A double thickness of this metal strip protects and reinforces the inner edge of the gasket. The gasket is then built up to the desired flange width by winding continuous alternating layers of the metal strip and asbestos. A double thickness of metal reinforces the outer edge.

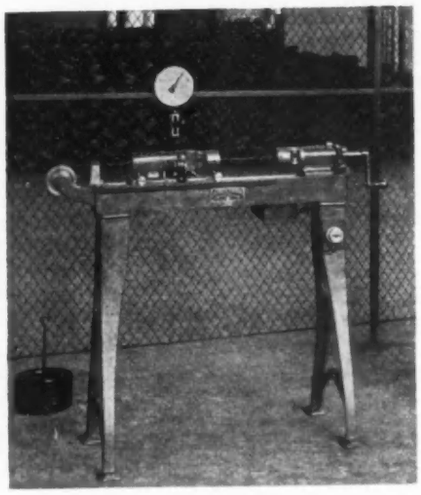
EQUIPMENT Featured at Oil Equipment & Engineering Exposition

A. Leschen & Sons Rope Company

▪ ***Wire Rope***

The A. Leschen & Sons Rope Co., St. Louis, Mo., is exhibiting a complete line of samples of such wire ropes as it recommends for use in the oil and gas industries.

A feature of this company's booth is the installation of one of the several machines that is used in the Leschen plant for determining the quality of all wire lines. The machine at the Houston show is one for finding the torsion, or twisting



One of the many testing machines used by A. Leschen & Sons Rope Co.

quality, of wire. Every wire that is put into any wire line manufactured by this company is first rigidly tested to make sure it meets all exacting requirements. Visitors will find the booth unusually interesting.

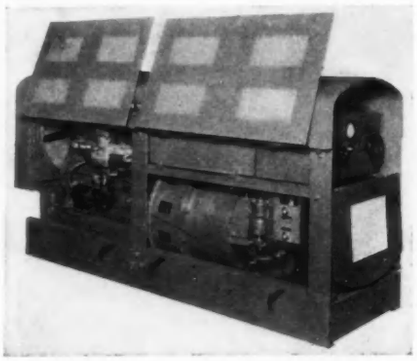
Big Three Welding & Equipment Company

▪ ***Welding Equipment***

Big Three Welding & Equipment Company of Houston, Texas, has on display Lincoln Electric Company "Shield-Arc" welders, Lincoln electrodes and welding accessories.

The performance of the new "Shield-Arc" welder is backed by its manufacturer's definite guarantee of (1) more weld metal deposit per K.W.H., (2) faster welding per K.W.H. and (3) lower cost per unit of welding—the unit being per lineal foot of weld, or per pound of weld metal, or per hour of welding.

A uniform welding current is one of the outstanding features claimed for the new machine. By leveling the hills and valleys of the usual welding current the



Lincoln "Shield-Arc" welder, gasoline engine driven type

"Shield-Arc" is said to have higher average current which permits a great increase in speed of welding and amount of weld metal deposited. The capacity of the new welder is 60 percent greater than its predecessor, the new machines being rated at 40 volts.

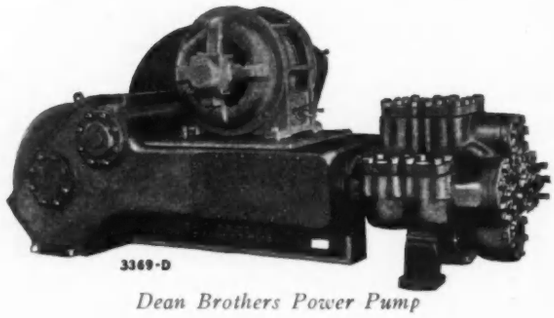
The large capacity of the welder, coupled with its higher average current, makes possible new efficiencies in welding with the shielded arc or covered electrodes. In addition, the machine offers improved operating characteristics for welding with bare or washed electrodes.

Though of much greater capacity, the "Shield-Arc" welder has a 10 percent higher efficiency at full loads and even more on overloads, according to its maker. The stabilizer, said to be the cause of high losses, is eliminated by the advanced design of the new machine. The higher efficiency should show results in economy of operation.

Dean Brothers Company

▪ ***Power Pumps***

Dean Brothers Company, Indianapolis, Indiana, have a line of oil-bath power pumps which are built to run for long periods of time without requiring attention. The entire pump is heavily constructed of the best materials. Accurate machine work insures quiet, trouble-free operation. Adjustments or replacements can be easily and quickly made. These pumps are dependable and can be used with confidence on the most severe service, according to the manufacturers.



Dean Brothers Power Pump

The power end of the Dean Brothers' oil-bath pump is strong and heavy. The heavy duty power end has a wide face steel gear. The pinion is a high carbon forging pressed and keyed on an alloy steel pinion shaft. The connecting rods are cast steel with solid bronze crosshead pin bushings and split bronze crank pin bushings. All bushings are renewable and can be easily replaced. The crank pin bushings are separated with laminated shims that provide close adjustment for wear.

Crossheads are of the plain cylindrical type. No adjustment is needed, as they operate in a bath of oil and the wear is so small it will never affect the operation of the pump.

The anti-friction bearings are so mounted as to allow for easy replacement when necessary. Inner races are on shafts. Outer races are in the housings. New bearings can be installed without dismantling the power end. The connecting rods and crossheads can be removed without taking out the crankshaft.

Dean Brothers' oil-bath power pumps can be arranged for any style of drive which is most suitable for the service to be performed. A drive which allows top motor mounting is the most compact. The various V-belt drives are being accepted by operators for both light and heavy service. Special length shafts can be furnished to adapt the pump to any power application.

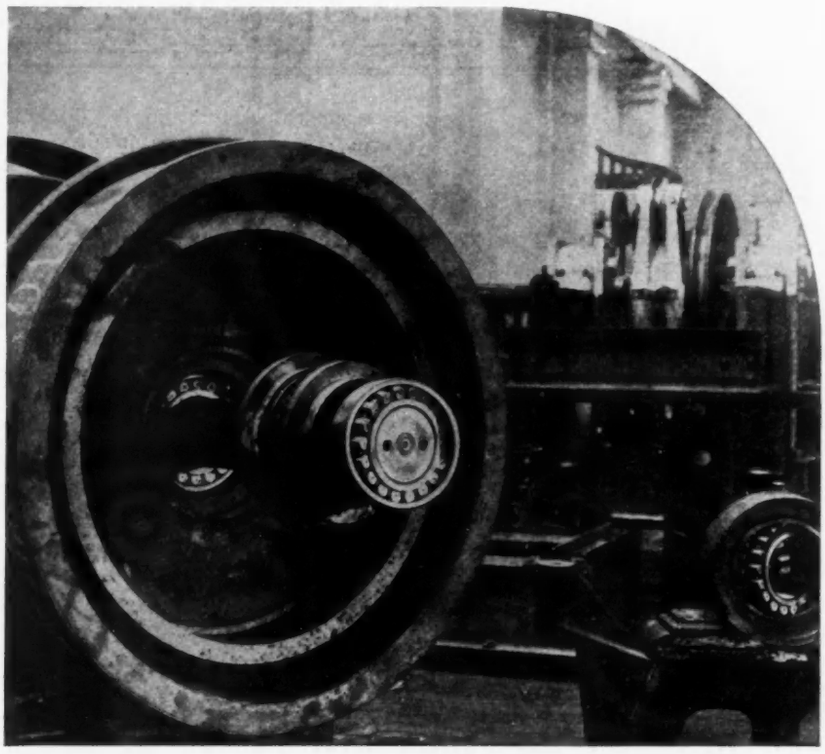
Columbia Axle Company

▪ ***Dual Ratio Axle Conversion Unit***

The dual ratio axle conversion unit built by Columbia Axle Company, Cleveland, Ohio, for installation under standard Ford trucks, provides the vehicle with two optional ratios between the engine and the rear wheels. It permits the truck to travel about one third faster in the high ratio with the same engine speed or, by use of the lower ratio, provides greater torque and acceleration for traffic, hills and hard going.

The operator may select at any time a ratio best suited for his driving conditions by simply operating a small lever conveniently located on the dash. Distributed in Gulf Coast by Transportation Equipment Company.

SKF
IN THE
OIL
INDUSTRY



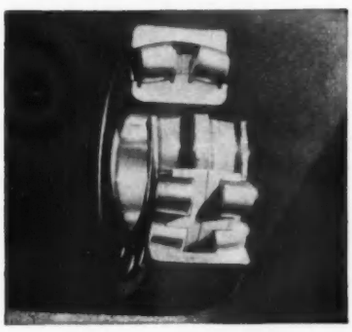
ELIMINATE DELAY—SKF'S MEAN NO ▼ ▼ ▼ BREAKDOWNS

NEWER AND BETTER METHODS are brought to the oil industry by SKF Bearings and Pillow Blocks . . . and if you're tired of "babying" inferior bearings . . . and if you want to eliminate "headaches" due to costly breakdowns . . . switch to SKF's that are daily meeting demands for faster speeds and greater production on equipment everywhere. That's how one manufacturer cut down on operating cost on this rotary drilling machine. The drum runs on the shaft as an idler and is coupled by means of a clutch when the load is lifted . . . a job that calls for plenty of dependability in a bearing . . . a job made for SKF.

There's *no adjustment* to worry over with SKF . . . and the only attention needed is oil or grease every two or three months. *Always* there's that dependable, 24-hour-a-day *performance* that should be the economy signal for you to try SKF Bearings.

3193

● *You may buy a bearing as a bargain but try and get a bargain out of using it, for nothing is apt to cost so much as a bearing that cost so little*



SKF INDUSTRIES, INC., FRONT ST. and ERIE AVE., PHILADELPHIA, PA.

SKF
Ball and Roller Bearings

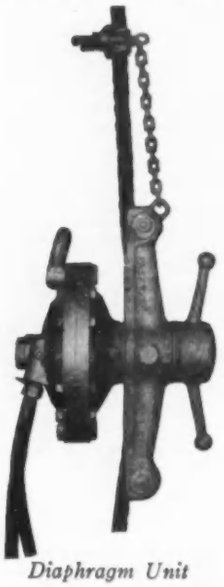
EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Cameron Iron Works, Inc.

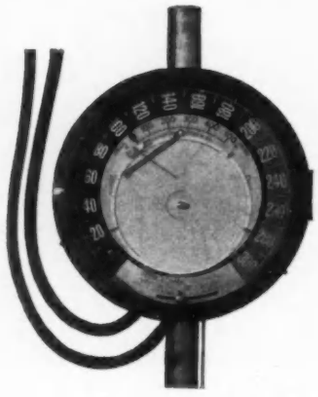
▪ *Weight Recorder*

Cameron Iron Works, Inc., Houston, Texas, is exhibiting the new Abercrombie-Shimek weight recorder, which is a simple method of weighing and recording the load on drilling lines. This instrument indicates and records directly the load on the hook in thousands of pounds, regardless of the cable size or arrangement, thereby eliminating the necessity of weight tables to determine the actual load. Accuracy of the instrument, according to Cameron engineers, is not affected by temperature changes, small leaks, or by air in the system. There is no need to calibrate or adjust the instrument at frequent intervals, and therefore servicing during a location is minimized.

The diaphragm unit suspended on the dead line determines the load on the line and transfers this measure of dead line stress, or hook load, to the triplex gauge unit, which consists of an indicating and recording gauge for measuring the hook load and also a steam gauge to indicate steam supply pressure that is used as the actuating fluid force in the diaphragm unit. The triplex gauge unit is mounted within a dust and weather proof case.



Diaphragm Unit

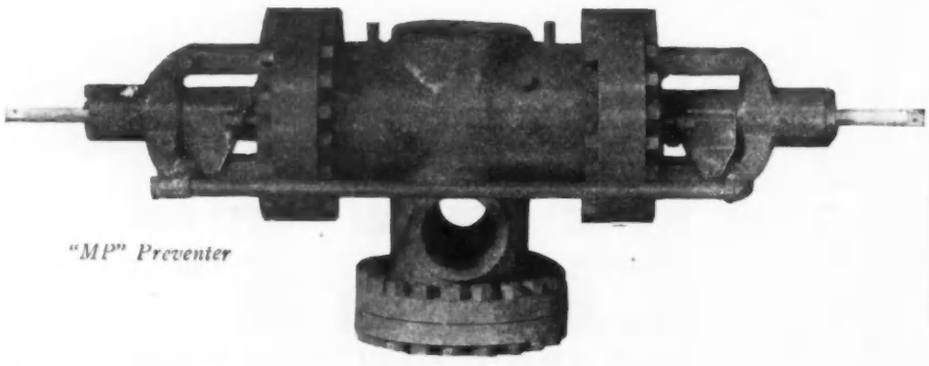


Triplex Gauge Unit

▪ *Blowout Preventer*

Cameron is also displaying the "MP" Series blowout preventer, which is closed instantly by fluid pressure and opened manually, at the operator's leisure. Closing is effected by the turn of a quick acting three-way valve, that may be located at a remote position from the mouth of the well, and which instantly releases a flow of fluid from the pumps to the rear of the preventer rams to move them securely to a closed position around the pipe that is in the hole. After fluid has closed the rams they may be locked by hand screws, and the fluid pressure released. Hand operated screws are used to withdraw the rams. Fluid pressure for operating this preventer may be obtained from the slush pumps, boiler feed pumps, or both, if desired.

The "MP" preventer is made in all sizes from 6⅝-inch to 16-inch, 3000 and 5000-pound test.

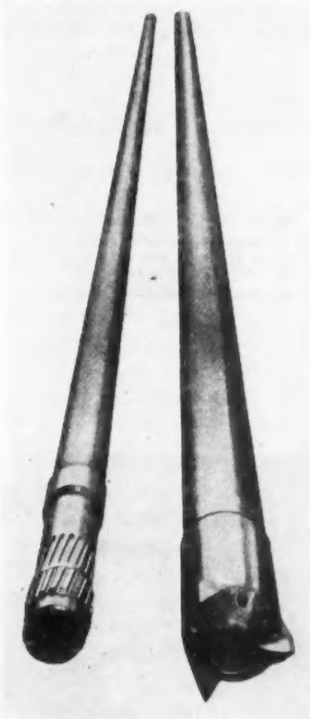


"MP" Preventer

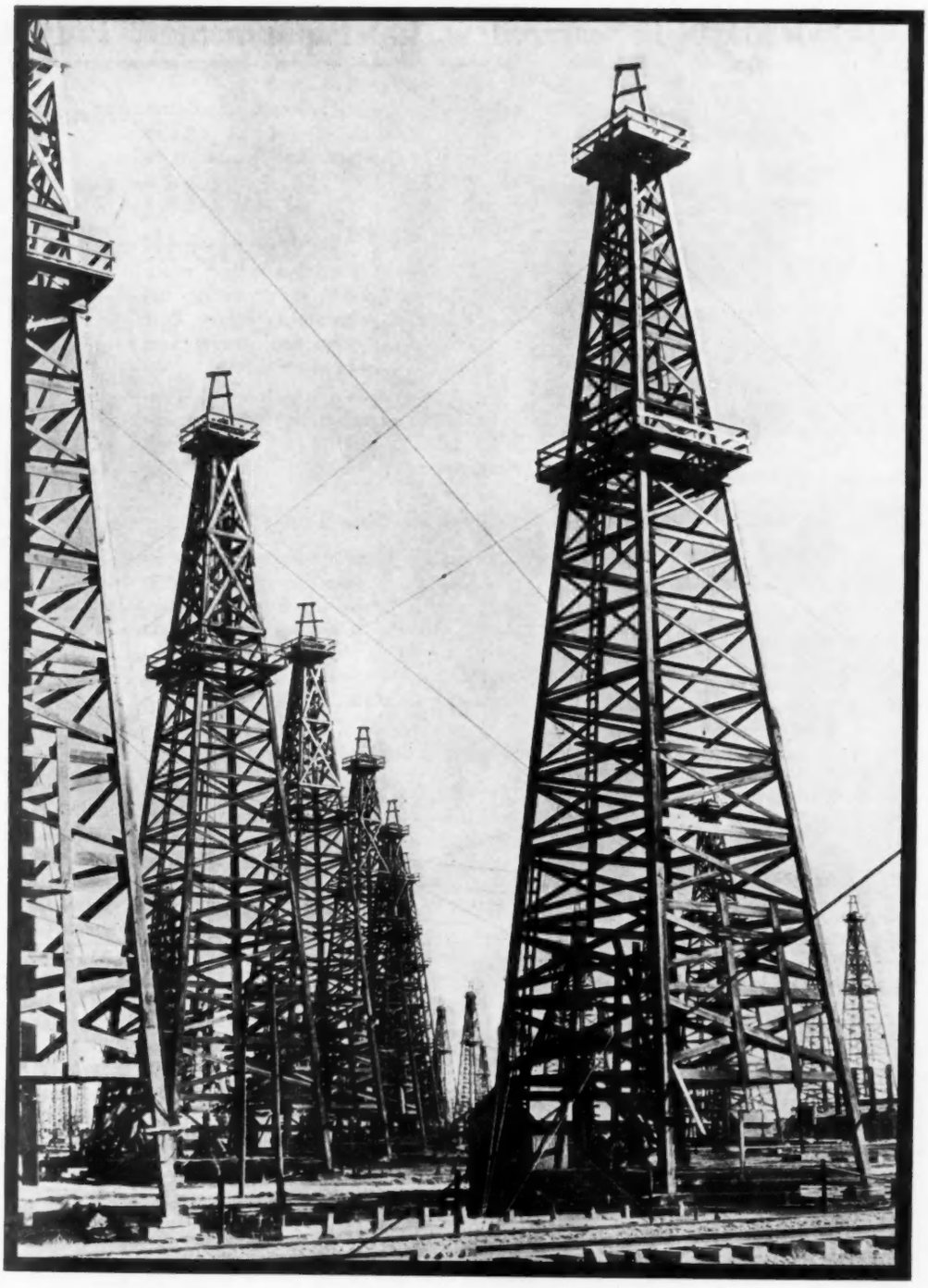
▪ *Pipe Centering Rams*

Cameron's improved preventer rams for centering pipe in the hold instantly will be displayed in connection with the "MP" preventer. Anglar wing guides, built as integral parts of the rams, are so constructed that upon application of the closing pressure and as the rams move toward their closing position the wings on each ram contact the pipe, and as the rams continue forward the pipe is gradually forced into the semi-circular face of each ram. These angular wing guides also protect the ram packing, since the pipe is well within the semi-circular face of each ram before contacting any portion of the ram packing. These rams have eliminated flat surfaces on the outer edge of the old Cameron style rams, and pre-

Pipe Centering Ram



Cameron Core Barrel



LEAK-PROOF CEMENTING •

Oil men tell us that, with prices at present levels, they are trying harder than ever to hold costs down by securing from each well its maximum production before putting it on the pump. That means taking advantage of every foot of gas.

To prevent gas leakage, you need a cement job that is dense, waterproof, gastight. This requires a cement that mixes readily with water, into a smooth uniform grout,—an outstanding 'Incor' quality.

'Incor' produces an evenly proportioned mix and a thick jelly-like grout that flows freely. Result, absence of soft-spots after the grout is placed behind the casing. Its unusual density also assures you of watertight, gastight cement,—protects you against a honeycombed job.

These two serious causes of leakage—soft spots and porosity,—are successfully avoided with 'Incor'. That is one reason it is now used exclusively in many of the leading fields.

The price is only a little more than ordinary Portland cement,—a fraction of resulting economies. 'Incor' is made by the producers of Lone Star Cement, subsidiaries of International Cement Corporation, New York, and is sold by other leading cement manufacturers. Dealers everywhere have a fresh supply of 'Incor'* in stock for quick delivery.

* Reg. U. S. Pat. Off.

'INCOR' 24-Hour Cement

vent the possibility of rams not entirely closing should drill pipe be leaning against the side of the preventer opening.

▪ *Core Barrel*

Cameron's new soft formation core barrel, features an idleing inner barrel, and recovers 100 percent core. The core is lubricated, preventing choking by facilitating core movement through the barrel. Arrangement for fluid passage in the lower end of the inner barrel allows passage of sufficient circulation to lubricate the core. Cores easily remove from the inner barrel. A removeable type core catcher springs are a feature permitting servicing by any member of the drilling crew. Extremely fine and soft cores are taken easily with this barrel.

Gearench Manufacturing Company

▪ *Petol Tongs and Wrenches*

Gearench Manufacturing Company, Houston, is showing the complete line of Petol tongs and wrenches, four of the tongs being featured as recent developments.

▪ *Petol Bull Tongs*

Strong chain-type tongs. Positive grip and non-crushing. Instantly removed and cannot jam. Perfect ratcheting action. One-piece jaw prevents loosening or spreading. Replaceable steel teeth inserts. Proof tested and certified chains. Handles pipe sizes two inches to 22 inches.

▪ *Petol Casing Tongs*

Petol Casing Tongs and Post offer safe method known for "running in" casing with make-and-break rotary. Post carries weight of tongs and permits them to move down as casing makes up.

Prevents threads getting crossed. Furnished with special safety links if specified. Size 16 fits 4¾-inch to 13⅜-inch casing.

▪ *Petol Machine Tongs*

The utility tongs for back-up work on pipe machine or pipe line jobs. Lightest and strongest chain-type tongs made. Positive grip, non-crushing. Perfect ratcheting. One-piece jaw and replaceable steel teeth inserts. Handles pipe 1¼ inches to 22 inches.

▪ *Petol Welding Tongs*

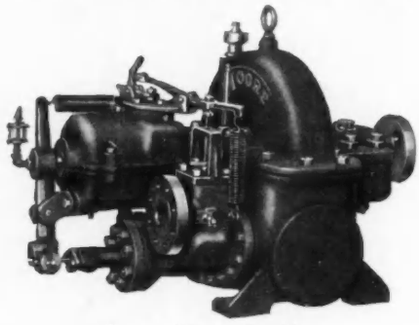
Chain friction type with no teeth. Seventy-two-inch handle gives extra leverage, lightening load of workmen. Reversible for rolling pipe in either direction without removing from pipe. Grips and releases instantly. One-piece jaws fit pipe from 6 inches to 26 inches. Weight of tongs carried on pipe while being applied.

Left to right: Gearench Petol Bull tong; Gearench Casing Tongs; Gearench Welding Tongs; Gearench Machine Tongs.

Moore Steam Turbine Company

▪ *Moore Steam Turbine*

Moore Steam Turbine Company has produced the Moore Type U2RA single-stage turbine to fulfill the need for an efficient and reliable steam turbine



Moore Steam Turbine

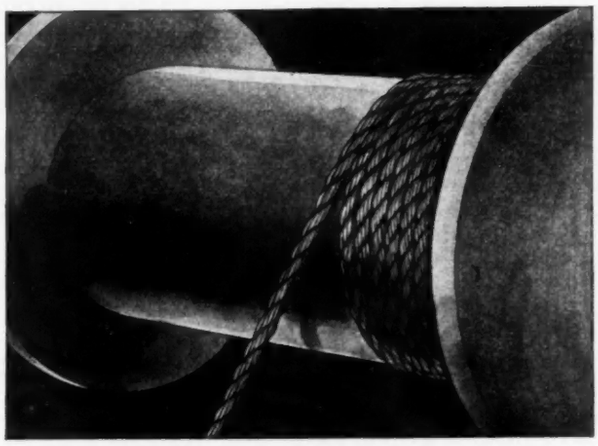
for sizes up to 60 horsepower. This turbine has all the essential features found in larger turbines, which are necessary to assure continuous operation, reliability and low maintenance.

The features incorporated in this turbine and heretofore found only in larger turbines, include the following: babbit lined bronze back split bearings; governor wearing parts of hard tool steel; stainless steel governor valve and seats; heavy stainless steel blading; and emergency overspeed governor and valve entirely independent of the constant speed governor.

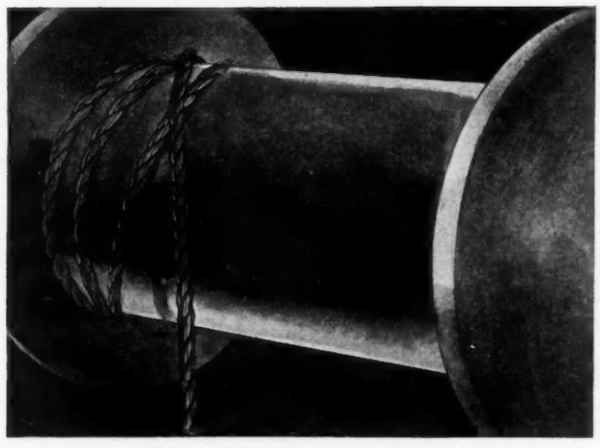
This turbine will operate for long periods of time under adverse conditions and without the attention of skilled operators, according to the manufacturer.

This equipment is displayed by M. N. Dannenbaum Company, district representatives, Booths 522, 524, 623, 625.

Start it right
and it will always reel right



Start it wrong
and the positive result is early destruction



Know your Ropes

...This is a helpful hint, how to make wire rope last longer. Subsequent Wickwire Spencer advertisements in this publication will give other dollar saving information. Tell us about your rope problem and we will give you the answer.

When winding Wire Rope on a smooth faced drum, the correct way is to start a right lay rope from the right flange and a left lay rope from the left flange. An even thread lay wind of rope on the drum is the result. To wind a right lay rope from the left flange or a left lay rope from the right flange, will cause the successive rope rounds to lie on the drum face with spacings between them. When the next layer is wound over a haphazard first layer, rope abuse and early destruction must necessarily result. Even, smooth winding permits the rope to give you the long and useful life that is built into it by the conscientious manufacturer.

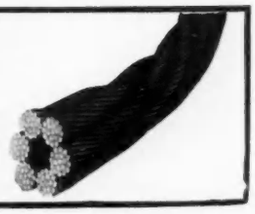
•

WICKWIRE SPENCER STEEL COMPANY, 41 East 42nd Street, New York City; Buffalo, Chicago, Philadelphia, Tulsa, Worcester; Pacific Coast Headquarters: San Francisco; Warehouses: Los Angeles, Portland, Seattle. Export Sales Dept., New York City.

WIRE ROPE
by Wickwire Spencer

BOTH...STANDARD LAY AND WISSCOLAY PREFORMED.

Wickwire Spencer manufactures all sizes and types of Wire Rope in standard lays and preformed. Wisscolay preformed wire rope will often solve a wire rope application difficulty. Ask our engineers where and when it should be used. Send for a free WIRE ROPE BOOK. It will prove of great value.

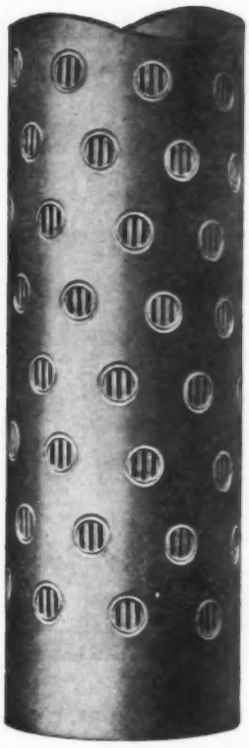


EQUIPMENT Featured at Oil Equipment & Engineering Exposition

J. H. McEvoy & Company

▪ *Wireless Well Strainer*

J. H. McEvoy & Company, Houston, has a large display of its products, including its improved wireless well strainer, in which each button is imbedded securely in the wall of the pipe so that it will withstand approximately 3000 pounds per square inch pressure from the inside. It is made in all sizes of pipe and casing from 1½ inches to 20 inches in diameter; or to greater dimensions on special order.



McEvoy Improved Wireless Oil Well Strainer

The construction of this well strainer, according to the manufacturer, gives it the necessary amount of inlet area, makes it practically indestructible, minimizes sand cutting with case hardened steel buttons, slips can be used anywhere on strainer, can be used for spudding, rotating and side-tracking jobs.

▪ *McEvoy Preformed Wire Strainer*

These strainers are made with brass or steel protective end sleeves that are brazed or welded to the pipe forming a very substantial protection against accidental injury to the ends of the strainer surface. Straight and relieved cross section slots resist wear and give freedom from clogging. The slots are parallel for a short distance, beginning at the outside and relieved the remainder of the distance to the inside.

The outside surface of the strainer wire is slightly beveled so that the finished strainer presents a sawtooth profile. Each wire protects the adjoining slot from contamination by clay and shale while setting.

▪ *McEvoy Micro-Choke*

This choke permits exact duplication of settings after changes in flow rates are made. This is accomplished by using a long taper on the valve, combined with a drum on the stem that operates on the principle of the mechanist's micrometer, being graduated in thousandths of an inch stem travel. This drum graduation permits accurate duplication of choke-nipple sizes with a minimum of effort, and affords a range of approximately 2500 different settings.

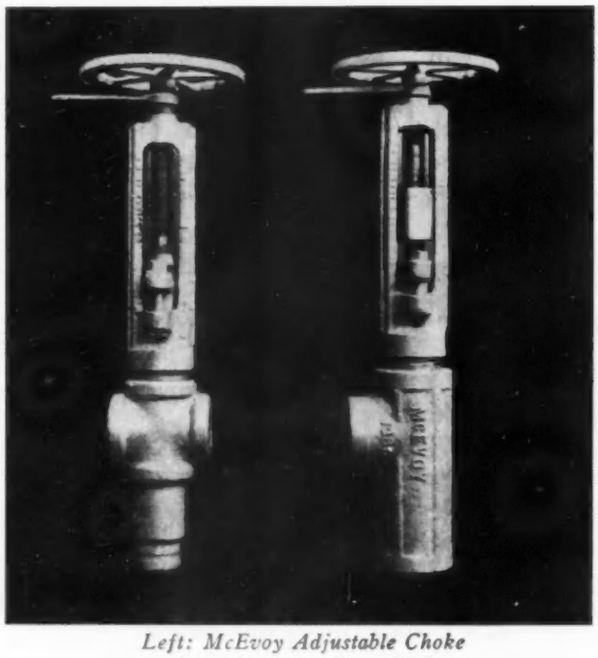
The micro-choke has heat-treated chrome-nickel steel valve and seat, Admiralty metal valve stem, and chrome-nickel steel body and frame. A lead lining is provided inside the body to protect it against sand cutting.

▪ *McEvoy Adjustable Choke*

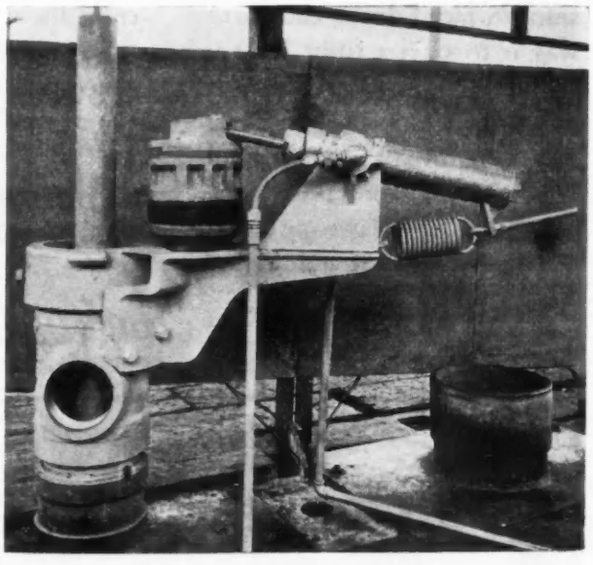
The valve and seat of the McEvoy adjustable choke are made of heat-treated chrome-nickel steel, and are ground in to insure a tight seal before leaving the plant. The body and frame are electric chrome-nickel steel and the stem is of Admiralty metal. The needle may be withdrawn far enough to permit swabbing when choke is mounted on top of the tubing.

▪ *Blowout Preventer Inserter*

The McEvoy blowout preventer inserter may be used with either McEvoy automatic safety pressure head or the McEvoy Hosmer-type blowout preventer. This inserter puts the packing member in place with a thrust forward received from a hydraulic or steam operated gun. All control elements are placed on the derrick floor within easy reach of the driller. When the four-way control valve is given



Left: McEvoy Adjustable Choke
Right: McEvoy Micro-Choke



McEvoy Preventer Inserter

WELL, JOE, ISN'T IT WORTH THE EXTRA COST TO PUT ON HAYSTELLITE ? LOOK AT THOSE FINGERS.
WORTH IT! SAY! WHEN A BIT COMES OUT LIKE THAT, I'VE MADE A STEADY CUSTOMER FOR LIFE. I COULD'NT SELL THOSE DIGGERS ANYTHING BUT HAYSTELLITE NOW.

These **3 POINTS** show at a glance why bits protected with Haystellite (Inserts and Composite Rod) stay in the hole longer.

1. HARDNESS—Haystellite is a cast tungsten carbide—almost equal to the diamond in hardness.

2. TOUGHNESS—Haystellite is the toughest of all cast tungsten carbides made for oil well drilling tools.

3. UNIFORMITY—The high quality of Haystellite never varies.

HAYNES STELLITE COMPANY

Unit of Union Carbide and Carbon Corporation

UCC

Chicago - Cleveland - Detroit - Houston - Los Angeles
New York - San Francisco - Tulsa

General Office and Works—Kokomo, Indiana

Haynes Stellite alloys are available also at all of the 42 apparatus shipping points of The Linde Air Products Company.

HAYSTELLITE TRADE MARK

The cast Tungsten Carbide diamond substitute

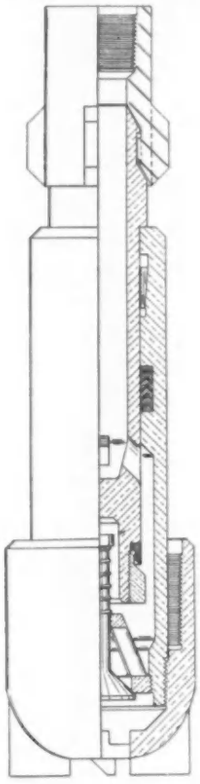
NRA

a quarter turn, the gun piston clamps the packing member around the drill pipe. The drill pipe is lowered, carrying the packing member into the bowl of the casing head and effecting a positive seal. The cylinder gun assembly is attached to the main body, leaving the lip ring free to be adjusted as desired. The packing assembly is the standard automatic locking dog type, which engage under the lip ring when the assembly is forced into the body by lowering the inner pipe. The taper on the lip ring enables the assembly to be forced easily into the head, even if the inner pipe is as far off center as possible.

▪ *Quadruple-Seal Set Shoe Assembly*

This device is for establishing a seal at the bottom of the strainer setting after washing is completed. This is accomplished by the use of four separate sealing devices in series. This set shoe is made to permit the run to be run as closely as possible to the bottom of the hole.

To operate the McEvoy quadruple-seal set shoe assembly, the strainer is set in the usual manner. Then the wash pipe is lifted, elevating the internal sleeve of the set shoe valve mechanism. When the ground joint section of the valve seats, the connection between the wash pipe and the sleeve shears off, after which the sleeve is held up by the slips provided.



McEvoy Quadruple-Seal Set Shoe

▪ *Packer and Setting Tool*

McEvoy Packer and Setting Tool

The McEvoy packer body is threaded to the liner on one end and to the setting tool on the other. This liner packer has a smooth outside surface on the body, which assists the even and complete packing of the canvas and prevents canvas from getting underneath leading edge of compression sleeve. The compression sleeve slides on the packer body, compressing canvas to pack off. The canvas member is firmly attached to the packer body and packed by the compression sleeve. It is free to expand between the ends. Positive action slips act on packer body from compression sleeve and holding the seal after setting string is removed from the hole, or elevated.

The setting tool compression collar compresses the packer after setting tool has been released. The mandrel is threaded to upper bushing and slidably keyed to lower bushing. It rotates to right, allowing setting tool to move downward. Upper bushings support the setting string after strainer touches bottom or if strainer encounters bridges or tight hole. Lower bushings are slidably keyed to mandrel and threaded to packer body. They support liner and strainer while going into the hole and washing to bottom.

Universal Oil Saver

▪ *Universal Oil Saver*

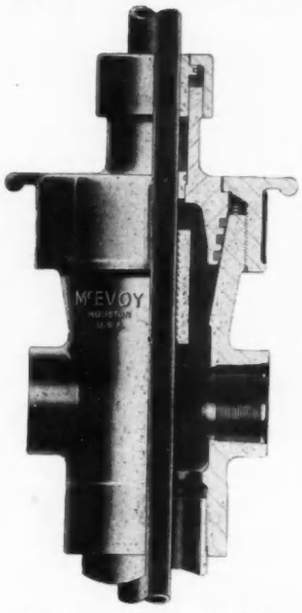
The McEvoy universal oil saver is for use on pumping wells to seal off between casing and tubing while pulling and running tubing or sucker rods. It wipes the oil from the tubing or sucker rod and prevents escape of gas.

The rubbers, which are of one-piece construction, grip the pipe firmly. These rubbers are oil resisting and return to their normal shape after rod joints and tubing couplings are run through them. Rubbers are interchangeable and can be supplied to fit any size tubing or sucker rod. Pressures up to 600 pounds have been controlled with the universal oil saver.

▪ *Universal Head*

The McEvoy Universal head is used both as a casing and tubing head; and for all stages of the life of a well from drilling on through pumping.

It has a straight thread connecting the body cap to the body, and the stuffiing box assembly makes a high pressure taper fit in the bowl. The head is used with a



McEvoy Universal Head

ratchet swage and a McEvoy automatic safety pressure head for drilling and can be converted into either a slip-type or hanger-type tubing head before the well commences to flow. Its simplicity of construction renders it ideal for use as a tubing head on pumping wells.

R-F Electrical Manufacturing Company

▪ *Frost Vertical Turbine Generator*

The Frost vertical turbine generator, manufactured by R-F Electrical Manufacturing Company, Shawnee, Oklahoma, has been designed primarily for oil field use. It is a small steam turbine generator made on the vertical principle. This style

Here are 5 *good reasons*

why experienced oil men prefer the

STANCLIFF SCREENS

1 **MORE OIL—Stancliff Screen gives more oil because it is all screening surface due to the patented ribbed construction.**

2 **KEEPS ITS GAUGE—The heavy square wrapping is uniformly spaced by full depth lugs cold rolled into the wire.**

3 **GREATER STRENGTH—Cold rolling of the wire increases its toughness and its tensile strength 25%. Instead of milling or slotting the pipe, ribs are placed on the perforated pipe, increasing its strength.**

4 **EASY TO CLEAN—Stancliff Screen is easy to clean because the ribs give ample clearance for free circulation of wash water.**

5 **SATISFIED USERS — Stancliff Screen has stood the test of repeated use by major producers in the Gulf Coast for the past 10 years.**

Patented

Stancliff Screens are manufactured from any desired material. An experienced engineering service at your disposal.

HOWARD SMITH COMPANY

HOUSTON, TEXAS

2412 RAILROAD AVENUE AT SAWYER STREET
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of construction, according to the manufacturers, gains the advantages of two natural laws: the lifting power of the exhaust steam under the turbine wheel tending to overcome the power of gravity, thus to a large measure relieving the step bearing load on the bearings; and the top-like or gyroscopic action of the entire revolving shaft and armature assembly tending to center down to a smooth running, vibrationless centrifugal action, further relieving bearing wear through lack of lateral motion.

This generator has a positive forced draft air circulation from end to end. By its unique construction, with the present ventilated dome top, there is a constant stream of cooling air playing over the generating assembly and thence onto the turbine body, making for cool operation and enhanced efficiency.

The Frost vertical turbine generator is manufactured in four sizes, 1½, 2¼, 3¼ and 4 kilowatt.

The generator is being shown in the booth of Bettis Sales Company, Houston, Texas, which firm is the Louisiana and Texas Gulf Coast distributors.

Universal Engineering Co., Ltd.

▪ *Zublin Bits and Cutters*

Universal Engineering Company, Ltd., Los Angeles, has on display latest models of Zublin bits and interchangeable cutters. Motor driven cut-away operating models of full-sized Zublin bits is a feature of the exhibit.

Zublin Bit with Type K-99 Cutter

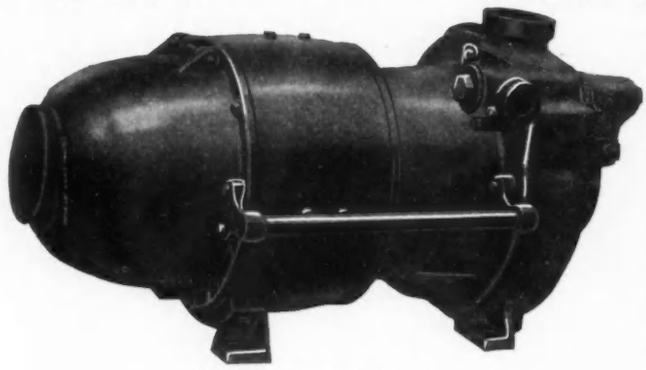
In addition, the latest types of cutters are exhibited, including the Type G-62 for drilling and reaming of soft and medium hard sandy or sticky formations; Type H-50 for tough and hard sandy shales; Type K-17 for drilling and reaming extremely hard and abrasive formations, and Type K-99 for milling and sidetracking operations. These new types of cutters are all interchangeable on the same shanks and adapt the Zublin bit to all types of drilling operations.

A unique feature of the exhibit is test blocks drilled with each of the types of cutters exhibited. These show the motions of digging and reaming teeth of Zublin bits and illustrate their drilling action.

Lacy Company

▪ *Turbolite Turbo-Generators*

Lacy Company, Houston, Texas, is showing its Turbolite turbo-generators, which are made in capacities of three, four, five and 7½ kilowatts, 115 or 230 volts output. These units are rugged electric plants developed especially for drilling rig lighting and similar service.



Turbolite Turbo-Generator

Their design permits easy removal and replacement of major parts.

The governor, while attached to the wheel as a unit, is encased entirely in a steam tight chamber that protects it from the steam, assuring freedom from corrosion and consequent sticking. This feature permits lubrication of the parts. The governor valve chamber, which contains the valve and to which is attached the nozzles, is made in one unit that can be removed easily from the turbine casing by taking out four cap screws. This is the only part carrying high-pressure steam. The governor thrust is of special design, consisting of a hardened steel ball and block in addition to an anti-friction disc, the whole being lubricated by a wick oiler. Wheel and buckets are made from non-corrodible material of high tensile strength. Oversized ball bearings carry a shaft of liberal dimensions. Lubrication is supplied by oil thrower discs running in large oil chambers.

Viking Pump Company

▪ *Viking Pumps*

Viking Pump Company, Cedar Falls, Iowa, and its Gulf Coast distributor, Southern Engine & Pump Company, Houston, are displaying Viking pumps, which are a rotary type pump of individual design. All Viking pumps use the Viking patented principle which has only two moving parts and in which every revolution of the pump shaft draws a definite amount of liquid into the pump, filling the spaces between the teeth in the idler and rotar as they pass the inlet port. The liquid is forced out of these spaces into the outlet or discharge port by the meshing of the teeth at a point midway between the two ports. The amount pumped per minute varies in direct proportion to the revolutions per minute of the pump shaft.

▪ *Standard Pumps Only*

Viking pumps only are particularly designed for special power applications where a base, pulleys, gears or other equipment is unnecessary. These pumps are also adaptable for replacement units.

▪ *Standard Belt Driven Pumps*

Standard belt driven pumps are furnished in capacities of five to 90 gallons per minute. They have a wide range of service and are particularly suited for installations where there is already a power source. These pumps are regularly equipped with tight and loose pulleys and belt shifter. Furnished in all iron, bronze-fitted and all bronze.

▪ *Standard Motor Driven Pumps*

These pumps are direct or geared individual motorized units. Standard motor driven Viking pumps are compact, self-contained pumping units in all capacities, with motor and pump mounted on the same base.

▪ *Viking Twin Pump Outfits*

These units consist of two or more pumps mounted on cast iron base, connected to power unit by cast iron, machine-cut gears, controlled by individual friction clutches of new design. The new clutch has three point friction contact, equal take-up and positive drive.

▪ *Multiple Pump Outfits*

Viking multiple oil outfits are assembled so as to permit the operator to handle from three to six different kinds and grades of oil or gasoline at the same time without mixing or changing pipe lines. Each pump is controlled independently with the latest type of friction clutch.

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Halliburton Oil Well Cementing Company

Halliburton Oil Well Cementing Company, Duncan, Oklahoma, is showing its full line of cementing equipment as well as some of its other products.

▪ *Multiple Stage Cementing Device*

This device allows greater facility and success in placing large amounts of cement behind strings of casing. It eliminates the necessity of pumping all the cement down the entire length of pipe and then a considerable distance upward behind the casing. This advantage is particularly desirable when a string of casing is to be cemented from top to bottom. The method is also useful where it is desired to protect a shallow productive formation located behind the casing. Thus, a cementing job may be done around the shoe to obtain the usual water shut off and another job may be done on the same string of casing at a shallower level to provide protection to a productive formation. By this means cement is placed above, below and at the shallower producing formation. Multiple stage cementing makes it possible to "spot" a body of cement at any point in the casing by installing it at a suitable point in the pipe string.

▪ *Full Hole Cementer*

This is a simple, inexpensive device allowing full sized holes in productive sand. When in "closed" position a sleeve covers the cement outlets, the sleeve being held in place by shear pins. Drilling fluid is circulated down through the device to thoroughly wash the space outside the screen. Then a regular two-plug cementing job is done. When cementing, the sleeve is forced downward by the bottom plug, uncovering the cement outlets and allowing the cement to pass through the outlets up into the annular space behind the casing. If an operator desires to use a canvas "shirt tail" packer, it may be attached to the liner just below the full hole cementer. After the cement has set, the plugs and back pressure valve are drilled out. The device permits the installation of the same size screen area, thereby obtaining larger drainage surface.

▪ *Howco Lining*

Howco cement lining for screens or perforated liners allows thorough washing of cavings, cuttings and heavy muck from behind screens or perforated liners. It is used in connection with the full cementer, although its applications are not restricted to this purpose and neither is it necessary that it be used with the full hole cementer. It requires no fishing as the material is easily drilled and circulated out of the casing by the tubing or drill stem at the same time the cementing plugs are drilled.

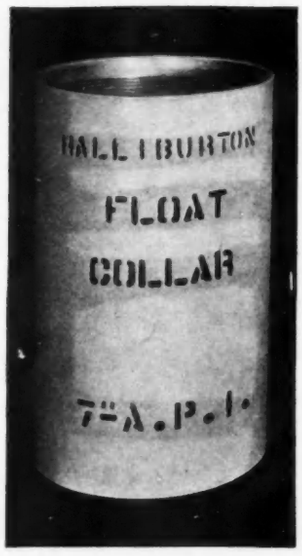
▪ *Howco Co-Axial Spiral*

Howco Co-Axial spiral offers an extra degree of protection when completing oil wells. It prevents, according to the manufacturer, channeling outside of casing and protects against blowouts.

Howco Co-Axial Spiral

It consists of a triangular rubber molding vulcanized to a metal base. The rubber is attached to the metal by a process similar to that employed by automobile manufacturers in vulcanizing rubber connecting pads used in floating power installations between the frame and motor. The spiral comes in seven-foot sections and is preformed in various sizes to fit over the outside of the casing. It is solid in sets of four seven-foot sections. However, any additional number of sections may be used.

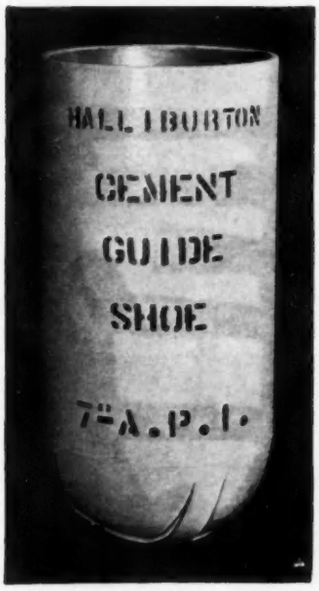
Howco Co-Axial Spiral is installed by simply slipping it over the thread end of a joint of casing and attaching it to the casing by arc welding at short intervals. Usually, two sections of spiral may be placed on the bottom joint of casing and the other two may be placed at a suitable point or points up in the string where it may be desirable to have assurance that the casing is not in direct contact with the wall of the hole.



▪ *Howco Float Collars and Cement Guide Shoes*

These products have four-way grooves, which lead into the main opening of the float valve or guide, providing emergency passages for the circulating fluid or cement. The guide will not interfere with coring through or immediately below the shoe.

By spacing the float collar one joint above the guide shoe in a string of casing, additional assurance is obtained that a good body of cement will be pumped behind the shoe.



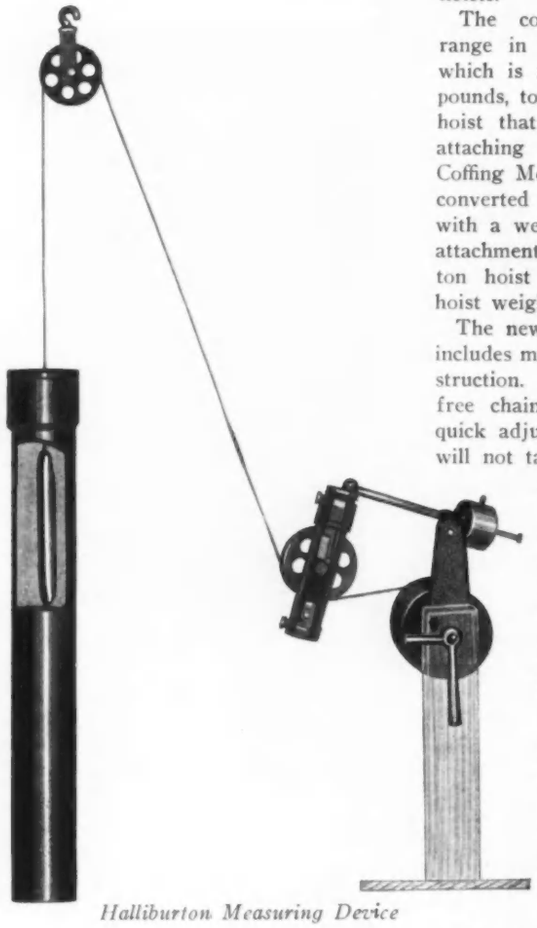
Howco float collars and cement guide shoes are available in standard casing sizes, and furnished with long threads for Grade "D" casing without additional charge.

▪ *Halliburton Measuring Device*

The Halliburton well measuring device is an apparatus for measuring the depths of wells. A round steel line is used, reducing both the weight and the cost. After leaving the reel the line passes entirely around a sheave that is coated around the outside with an extremely hard metal. This sheave is of such diameter that when the line is drawn taut around it each revolution of the sheave passes exactly two feet of line. An automatic counter registers each half revolution of the measuring sheave that is, counts each foot of line as it passes. The measuring member has two retaining wheels that are adjustable to maintain a slight pressure on the line and prevent any possibility of its slipping on the sheave. These wheels are heat treated to

reduce wear to a minimum. By releasing the retainer wheels the line may be removed from the measuring member. The device may be operated by hand or by any available power.

The stuffing box assembly is a device that screws onto the top of the swedge nipple or casing head. It consists of a grooved sheave over which the measuring line passes, various fittings and a stuffing box through which the line can enter the casing without the well fluid coming out.



Halliburton Measuring Device

▪ *Formation Testers*

The Halliburton formation tester is a method for testing the productivity of a formation encountered in a well containing drilling fluid. It involves the insertion of only a single string of pipe into the well to make a test, which includes lowering a test string into the well through the drilling fluid with a packer carried by the string and a valve inlet at the lower end of the string closed against the entrance of fluid from the well, setting the packer above the formation and opening the valve to permit cognate fluid from the formation to enter the inlet, closing the valve to prevent the subsequent entrance of fluid from the well through the inlet and releasing the packer, and raising the test string with the inlet closed against the entrance of fluid from the well to remove an entrapped sample.

Coffing Hoist Company

▪ *Hoists*

The Coffing Hoist Company, Danville, Illinois, is showing a complete line of hoists.

The company's ratchet type hoists range in capacity from the Model A, which is a ¾-ton hoist that weighs 14 pounds, to the Model Z, which is a 6-ton hoist that only weighs 65 pounds. By attaching a special iron block to the Coffing Model A ¾-ton hoist, it may be converted into a 1½-ton capacity unit with a weight of 19 pounds. The same attachment applied to the Model F 1½-ton hoist changes it into a three-ton hoist weighing only 36 pounds.

The new type spur gear Coffing hoist includes many desired features in its construction. Some of them are as follows: free chain, light weight, ball bearings, quick adjustment and a load chain that will not tangle. The load is lowered by gravitation at the desired speed by pulling on a rope to release the clutch. The load may be stopped at any position. Specifications of materials used in the Coffing spur gear hoist are as follows: frame and hand chain wheel of malleable iron; hooks are of special drop forging, heat treated; the load chain is made of special Diamond chain tested to 8000 pounds single strand; the gears are of special heat treated steel; and the hand chain is a standard 3/16-inch link chain.

▪ *Load Binder*

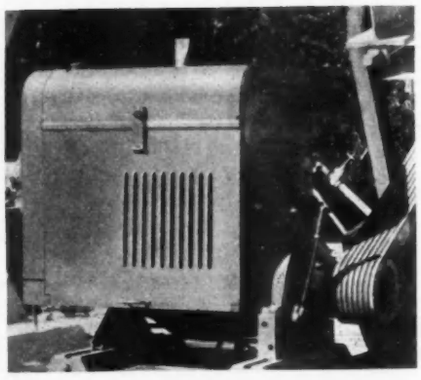
Coffing Hoist Company also has on exhibit a new load binder that is a powerful, light-weight tool. It has a capacity of 4000 pounds and weighs only 11½ pounds with three eighths-inch grab hooks and 24-inch load chain.

Climax Engineering Co.

▪ *Chrysler Pumping Engines*

Climax Engineering Company, Clinton, Iowa, is showing models of Chrysler industrial power units, Climax equipped, for oil field service. At 1200 revolutions per minute the units offered for this service are rated respectively as follows: PA, four-cylinder, 28.5 horsepower; CM, six-cylinder, 35.5 horsepower; Z-1, six-cylinder, 45 horsepower. Climax distributes the Chrysler units for industrial and oil field service nationally, along with engines of its own ranging up to 200 horsepower.

As displayed and offered for pumping service these Chrysler units show that close consideration was given to various items of construction and equipment for the job. Five-gear front ends permit gear drives for governor, generator and magneto. Industrial type flywheel and flywheel housings are provided for standard



Climax-equipped Chrysler Industrial Power Unit

industrial type power take-off and clutch. Industrial type radiator and fan give ample cooling. Foot type mounting insures sturdy support and easy installation on fixed or sliding base. High compression heads for natural gas are standard equipment items on these models, maintaining high efficiency with little, if any, loss in power capacity on gas as compared with gasoline. Lubrication is by pressure to all crank shaft and cam shaft bearings and sprayed to piston pins and cylinder walls.

The equipment included with each unit is obviously very complete including heavy-duty oil-bath type air cleaner, combination carburetor and natural gas mixer, fuel pump, water pump, electric starting complete with generator and battery, instrument panel with ignition switch, starter button, oil-pressure gauge and ammeter, muffler, starting crank and tools. Each unit is fully enclosed with a neat, durable hood whose louvred side and rear panels and attractive duco finish give it an excellent, workmanlike appearance.

More Production with Less Power

SELF-CONTAINED PUMPING UNITS

PARKERSBURG designed this Self-Contained Pumping Unit with a 10-foot stroke so as to secure the definite advantages of decreased power costs and increased production gained by a long, slow pumping stroke.

Its straight lift with maximum stroke of ten feet is obtained by means of an oscillating Sampson Post and guide links that tie the top of a double Pitman assembly to rigid front columns. This unique construction makes the Unit symmetrical about the Beam center line, thereby eliminating weaving and eccentric loading.

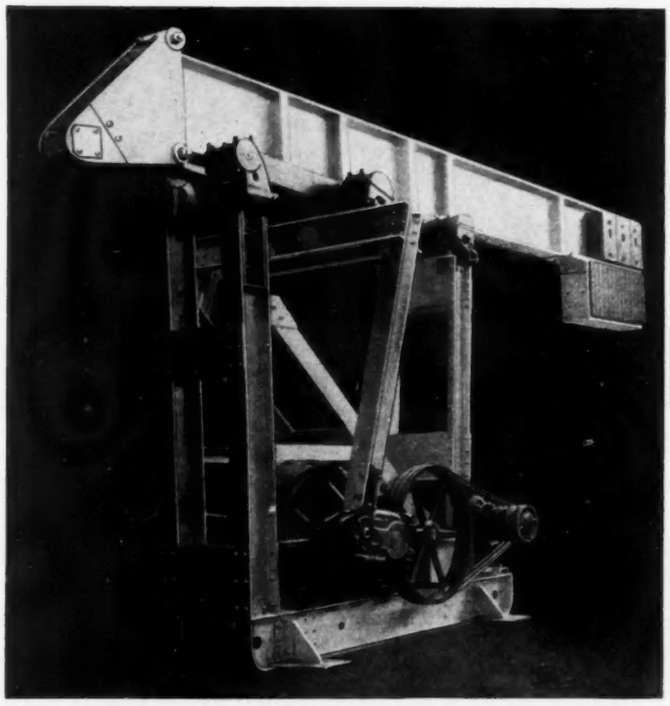
Shorter strokes are obtainable with the SC-10 Unit when desired; the SC-4 Unit is recommended for those who prefer the conventional short pumping stroke.

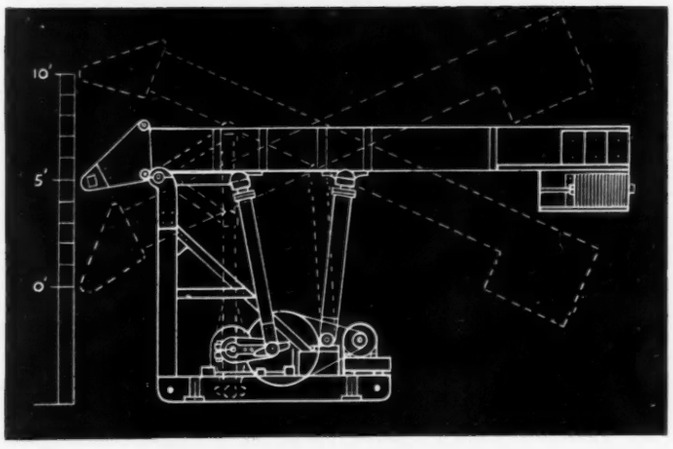
Write for Booklet J-6-33 giving full details.

The PARKERSBURG RIG AND REEL CO.

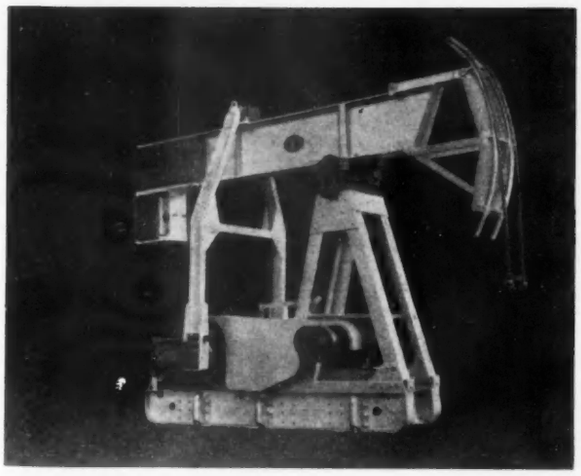
PARKERSBURG, W. VA.

Branches in All Active Fields





Illustrating how Parkersburg Self-Contained Pumping Unit (SC-10) secures an absolutely straight lift motion. The Sampson Post oscillates back and forth through a small arc an equal distance each side of its vertical center line . . . The double Pitman, tied to rigid front columns by guide links, also oscillates . . . By this assembly the arc through which the Beam nose normally travels (in Standard Rigs) is corrected into a vertical straight line.



Parkersburg Self-Contained Unit with Four-Foot Stroke. Especially designed for East Texas conditions. A special adaptation of the "Arc Type" Head secures positive, straight-lift motion. A substantial, compact unit; rigid, strong, vibrationless. Quickly and easily assembled.

THE PARKERSBURG RIG AND REEL CO.

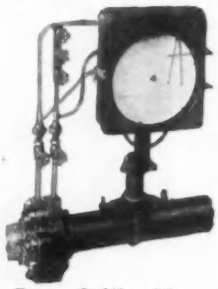
TRADE MARK REG.

by PARKERSBURG

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Pittsburgh Equitable Meter Company

Pittsburgh Equitable Meter Company of Pittsburgh, Pennsylvania, is displaying a representative selection of meters for gas, oil, gasoline and water, as well as pressure regulators and control apparatus for use in refineries.



Emco Orifice Meter

▪ *Orifice Meter*

The EMCO orifice meter is entirely water tight and moisture proof. The dial differential calibrating and adjusting device make hairline adjustment easy. Micrometer adjustment is used for calibrating static element and zeroing pen. All parts of the differential movement that are subject to corrosion are of stainless steel and the all-welded manifold overcomes small leaks.

Eureka Oil Meter

▪ *Oil Meters*

Among the complete line of oil meters displayed, the Eureka oil meter will hold particular interest for many. This meter is recommended for pipe line service where it is primarily essential to measure large volumes of rapidly flowing crude oil and where smaller volumes are seldom encountered. It is of the velocity type, commonly known as a current meter. The interior is entirely streamlined, assuring a minimum restricting effect to the flow of oil and eliminating pockets where sediment might accumulate. The measuring chamber is also self-cleaning, as the downward flow through the chamber washes the propeller and chamber free of all sand and other foreign matter. A direct reading register records in either gallons or barrels, the total volume that has passed through the meter.

▪ *Bulk Gasoline Meter*

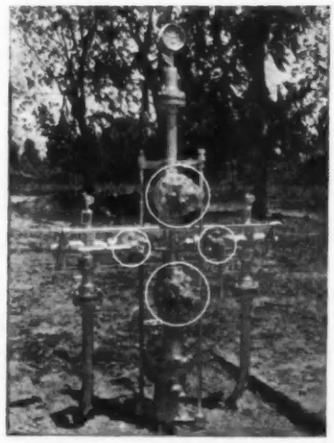
Pittsburgh Bulk Gasoline Meter

The Pittsburgh piston meter for gasoline and oil measurement will be a feature display at the booth of Pittsburgh Equitable Meter Company.

This meter, which measures accurately through true positive piston displacement, gives direct readings of all movements of refined petroleum products. Installed in bulk plants, on loading racks at refineries or incoming tank car delivery lines, they eliminate the possibility of human error in gauging, recording or computing volume. At the same time a visible record is provided of all receipts and disbursements.

▪ *Christmas Tree Valves*

Pittsburgh Equitable Meter Company also manufactures valves for boiler installations, mud lines, blowout preventers and Christmas Trees. The company is exhibiting an assembled Christmas Tree at the exposition. It consists of lubricated plug valves, made by Merco Nordstrom Valve Company, a subsidiary of Pittsburgh Equitable.



Pittsburgh Equitable Assembled Christmas Tree

Price & Trawick

▪ *P & T Kickoff Units*

Price & Trawick, Stroud, Oklahoma, and its Gulf Coast distributors, Gulf Engineering Company, Houston, Texas, are exhibiting P & T kickoff units, which are tubing couplings, so designed that the well may be flowed with equal efficiency and results through either tubing or casing.

The unit is designed with a cold shrunk-in valve seat, grooved in the walls

P & T Kickoff Unit

of the coupling and having a concave face, a valve member extending through the valve seat, and at one end the portion has a convex valve head opposed to concave surface. The universal wobbling valve that is mounted on a leaf spring seats under pressure at any position.

The valves, seats and springs are made of monel metal to prevent rust, corrosion or base sediment from interfering with the working of the valve.

Houston Ready-Cut House Company

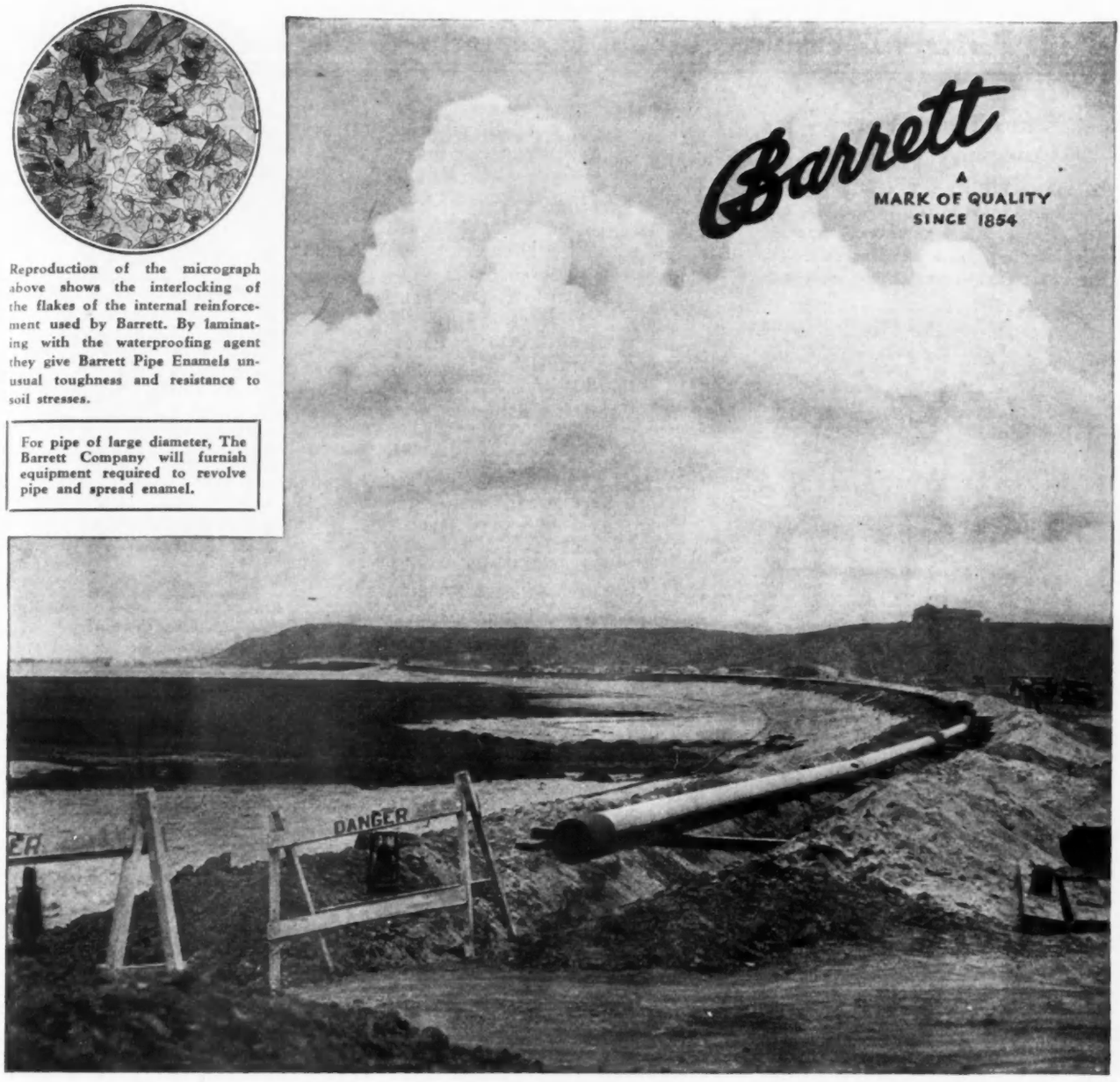
▪ *Sectional Buildings*

Houston Ready-Cut House Company, Houston, Texas, has on display a 12-foot by 16-foot sample of its sectional (portable) oil field house.

These houses, manufactured in a modern mill, have many features over the rigid house. Made up in standard sections, they are easily erected and taken down at a minimum cost. All waste of expensive material is eliminated. Sectional units can be manufactured to fit every requirement, from the smallest of meter and pump houses, to standard warehouses, bunk-houses and dwellings.

Reproduction of the micrograph above shows the interlocking of the flakes of the internal reinforcement used by Barrett. By laminating with the waterproofing agent they give Barrett Pipe Enamels unusual toughness and resistance to soil stresses.

For pipe of large diameter, The Barrett Company will furnish equipment required to revolve pipe and spread enamel.



No coating gives better or longer-lasting protection

Immune to moisture . . . to earth acids and currents . . . to disintegration from submersion—Barrett Pipe Enamels inhibit corrosion and the destructive action of the elements and electrolysis. They provide a tough, adhesive film which has great dielectric strength and stability, giving effective insulation and protection . . . underground, under-water or in salt marshes. Applied to Barrett Specifications, the Barrett technical staff and field engineers will gladly cooperate with you. 'Phone, wire or write.

The Barrett Company

40 RECTOR ST. NEW YORK, N. Y.

Barrett Specification

PIPE LINE ENAMELS

Petroleum Iron Works Company of Texas

▪ *Pumping Unit*

Petroleum Iron Works Company of Texas, Beaumont and Houston, Texas, is showing the new PIW pumping unit. It is a compact, easily portable unit equipped with double reduction speed reducer having a ratio of 40 to one, and capable of transmitting 30 horsepower at 20 revolutions per minute on its crank shaft. It is driven through multiple V-belt from a prime mover. A double crank may be arranged for strokes of 24 inches, 32 inches, 40 inches, 48 inches, 56 inches and 64 inches. The entire unit and moving parts are self-contained. A double A-frame is rigid and well braced, affording protection against weaving and wobbling. The pitman is double I-beam construction. The entire horsehead may be rotated to clear completely the well. A four-page folder describing and illustrating this unit is available at the company's booth.

PIW Pumping Unit

▪ *Washington Separators*

The new PIW Washington oil and gas separator is being shown in various sizes and pressures, and alongside an old Washington marketed many years ago.

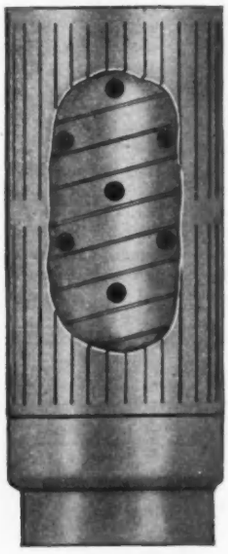
The new Washington involves a principle of modern scrubbing, known otherwise only to modern refinery methods. Each unit is equipped with liquid level controllers, oil outlet valve, two or more cast steel tangential inlets, safety valves, pressure gauge, one gauge glass in liquid level controller and another connected directly to separator shell, a 16-inch manway, and a removable ladder. It is made for standard working pressures of 125, 250 and 500 pounds.

Four foot x 12 foot— 250 pounds pressure separator

▪ *Oil Well Strainer*

The vertical slots on the PIW oil well strainer are not subject to distortion even if strainer is rotated or when it is necessary to remove the strainer from the well, according to the manufacturers.

Both inside and outside pipe are effectively rust-proofed. There is positive separation between the inside pipe and the outside pipe. Slots are so formed that the fluid has free and ample clearance and quick passage to barrel of inside pipe. Before protective coating is applied, the outside pipe is heat-treated by a process similar to case hardening.



PIW Oil Well Strainer

▪ *P. I. W. (Goble) Underpull Pumping Jack*

Displayed for the first time is PIW (Goble) underpull pumping jack, the outstanding feature of which is constant lever arm of horizontal force throughout the stroke. This is accomplished by a curved steel rocker that keeps the point of application of force from pull rods at a set distance from center of rotation about saddle bearing for all positions of walking beam.

The saddle bearing, the only bearing on the jack, is fully enclosed and operates in an oil bath. A fresh supply of oil in this bearing about once a year is all the maintenance required. A sediment basin is cast in the bottom of the bearing base. This basin will catch any water that might condense within the housing.

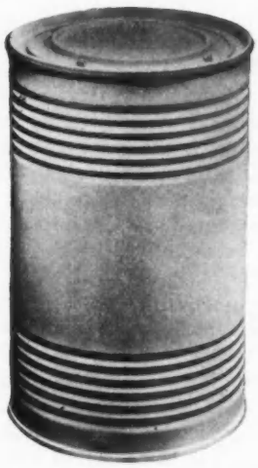
Provision is made for anchoring a concrete counterweight to top of beam. Flat steel plates can be furnished for counterweight, as an extra, if desired.

PIW-Goble jacks are made in seven sizes. Jack No. 6 is designed for heavy duty on deep, hard pumping wells. It has a stroke adjustable from 30 inches to 60 inches with a 24-inch horizontal rod pull, or from 45 inches to 60 inches with a 36-inch horizontal rod pull without use of multipliers.

▪ *Shipping Containers*

PIW steel barrels or drums for shipment of oils, greases, powders or pastes, in capacities from 15-gallon to 55-gallon, or from 100-barrel to 400-barrel, will be

EQUIPMENT Featured at Oil Equipment & Engineering Exposition



PIW Shipping Container

represented by sample displays at the exposition.

These shipping containers are available with standard heads with ¾-inch, 1½-inch or two-inch openings, full removable heads or with bolted covers. Open top asphalt barrels made in slightly varying diameters to permit nesting, thereby saving in both freight charges and storage space, will be represented at the exposition.

Gilfillan Machine Works

▪ *Boiler-Gas Fuel Governor*

Gilfillan Machine Works, Ebenezer, New York, through its Gulf Coast distributor, Boiler Specialty Company, Houston, is showing its new Gilfillan boiler-gas fuel governor, which has been originated for maintaining an absolute steam pressure from eight onces to 350 pounds on all makes of industrial gas burning equipment using either low or high pressure gas.

The operating principle of this governor, known as Type-32, is, in effect, by-passing a small portion of the fuel gas from the inlet side of the governor over the diaphragm, through the control valve and then to atmosphere in the fire box. This pressure, as low as two ounces and not exceeding one pound, is used as a medium to operate the gas valve as the flow through the by-pass line is checked or released by the action of the boiler pressure on the control valve. An increase in boiler pressure acting on the control valve closes the by-pass. This builds a pressure on the diaphragm and closes the gas valve. A decrease in boiler pressure, acting on the control valve, opens the by-pass. This releases the pressure on the diaphragm and allows the gas valve to open.

Gilfillan Boiler-Gas Fuel Governor

The control valve provides the means for setting the governor to operate at a predetermined boiler pressure. The setting is made with the hand wheel adjustment at the bottom of the valve.

▪ *Gas Fuel Steam Boiler Governor*

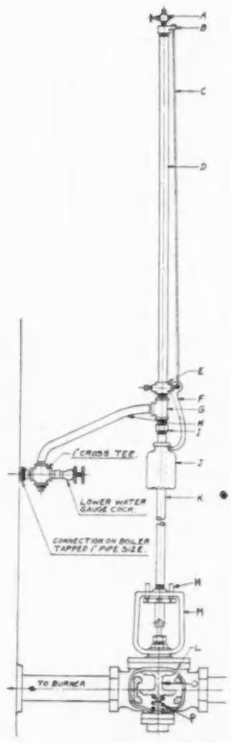
The Gilfillan gas fuel steam boiler governor has been designed for use on gas fired steam boilers, to maintain an absolute steam working pressure at any point from one pound to 500 pounds and can be furnished with the correct size diaphragm to operate over various wide ranges of pressures.

Gilfillan Gas Fuel Steam Boiler Governor

This governor controls automatically the flow of gas to the burner with a throttling movement, according to the decrease or increase of steam pressure on the boiler, which acts directly upon the sensitive frictionless diaphragm. It is very sensitive to the slightest steam pressure fluctuation and operates on one half to one pound pressure change.

▪ *Gilfillan Low Water Fuel Cutoff*

This is a Gillfillan originated boiler specialty for providing an absolute safety factor by automatically cutting off the fuel supply to burners under dangerously low water conditions. The emergency operation of this water cutoff is produced by a thermotic action of the expansion tube. As the boiler water level drops below the predetermined ultimate safe water level (the point at which the device is connected to the boiler), steam enters the expansion tube. The high temperature of the steam transmitted to the tube causes the latter to expand, which action exerts a pull on the expansion rod that releases the catch from the trip weight (J). The force of the trip weight in striking the valve stem plunger closes the gas valve against the supporting spring underneath the valve. Manual resetting of the trip weight is necessary after the boiler water level has been raised sufficiently to prevent further escape of steam from the boiler to the expansion tube.



Gilfillan Low Water Cutoff

Gulf Publishing Company

▪ *The Oil Weekly*

Stereopticon views of Gulf Publishing Company's plant, together with information on THE OIL WEEKLY. Views will show various processes in the printing and publishing of a modern magazine.

Mission Manufacturing Company

▪ *Mission Rotary Slips*

Mission Manufacturing Company, Houston, is showing its rotary slip, which is primarily constructed to hold long strings of pipe without damage, and secondarily for ease and economy of operation.

The gripping mechanism of these slips consists of stacks of independently movable dogs, the front edges being curved to fit the pipe, the bottom half of these front edges being beveled away and the top half of the back edge also being beveled. This permits upward movement of the dogs from a horizontal position, which movement rolls the dogs away from the pipe thereby bringing about release immediately when desired. The normal position of these dogs is about 10 degrees up from the horizontal so that when they contact the pipe, they move to the horizontal position, taking a firm grip instantly.

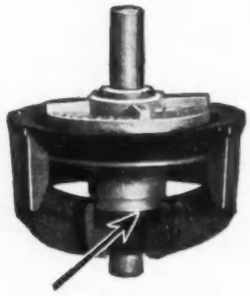
Every stack of dogs is held in a dovetail-groove, behind each segment is a lateral fin that is tapered to fit the bushing of various rotaries. The dogs, which roll against a replaceable steel plate, are made of a low carbon steel carburized to one sixteenth-inch. All wearing parts may be easily replaced on the derrick floor.

The bodies of these slips are made of the finest quality chrome nickel steel and heat treated to obtain maximum strength and wearing qualities.

Mission Rotary Slip

▪ *Mission Valves*

These valves are constructed on an entirely new principle. The design consists principally in the fact that metal to metal contact is taken at a point far removed from the sealing surface, and that the point where the metal portion of the valve body contacts the valve seat is easily replaceable without pulling the seat. This fact makes the seat nearly a permanent



Mission Valves

installation, for the sealing surface is contacted only by rubber.

The terrific blow of the valve, in sealing off, is taken on a steel bushing placed in the cross rib of the seat. The rubber insert is thus held one sixteenth-inch from the sealing surface, being pressed into a seal by the fluid pressure with no weight of metal upon it. The seal is made gradually.

The metal parts and seats are made of the highest grade of alloy steel, specially heat-treated for their particular purpose.

▪ *Mission-Haywood Syphon Lift*

The method of installing this flowing device is extremely simple. The tool is set in the tubing string at the proper submergence. The tail pipe is run below the tool to the very bottom of the well, and the gas conductor tube, or "macaroni string," is run upward from the tool to the proper height.

Mission-Haywood Syphon Lift

The gas conductor acts as a means of leading the gas or air from the space in the casing above the fluid to the submerged tool, and as choke to the flow of gas. The size and length of this tube controls the amount of gas passing to the tool, and prevents a sudden rush of gas. A ball check in the tool prevents fluid from backing into the "macaroni string" at any time.

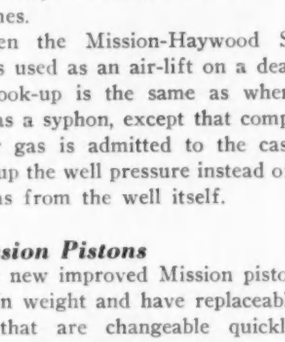
The "tail pipe" is a continuation of the tubing below the tool for the purpose of picking up the fluid from bottom and for preventing the gas from breaking into the tubing below the tool.

When operated as a syphon, the flow string is equipped with a valve that is thrown completely open when the well is put on production and closed when the well is off production. The well will start flowing whenever the valve is opened. By this means pressure (rocked in by the well itself) is maintained on the fluid at all times.

When the Mission-Haywood Syphon Lift is used as an air-lift on a dead well the hook-up is the same as when it is used as a syphon, except that compressed air or gas is admitted to the casing to build up the well pressure instead of using the gas from the well itself.

▪ *Mission Pistons*

The new improved Mission pistons are light in weight and have replaceable rubbers that are changeable quickly and easily. This eliminates the expense of purchasing new pistons if rubbers are worn out. The bodies are of forged steel,



Mission Pistons

and the same body does for many sizes of liners, with only slight field shop work needed to adjust to various sizes.

The rubbers used in these pistons is of the highest resisting type, still having the maximum of tensile strength and flexibility. It is backed, for support against high pressures, by fabric, which is impregnated thoroughly with rubber and vulcanized securely to the solid rubber portion.

The Buda Company

▪ *Engines*

The Buda Company, Harvey, Illinois, manufacturers of gas, gasoline and Diesel engines, is exhibiting three sizes of Buda engines.

Model H-217 industrial power unit is a four-cycle, 3 13/16-inch bore by 4¾-inch stroke and is for operation on natural gas or gasoline.

Model YRC industrial power unit is a four-cylinder, 4¾-inch bore by 6-inch stroke engine with a horsepower rating of approximately 50. It operates on natural gas or gasoline.

The Buda M. A. N. Diesel electric generating set uses a six-cylinder type, Model G-D-415, high speed, light weight Diesel engine as prime mover. The electric unit is built as an integal part of the engine, having a four-inch bore by 5½-inch stroke.

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

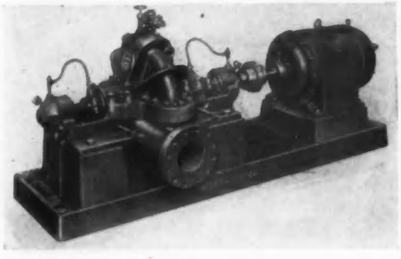
Worthington Pump and Machinery Corp.

Worthington Pump & Machinery Corporation, Harrison, New Jersey, represented by A. M. Lockett & Company, New Orleans, Louisiana, has a large exhibit in which are shown many items of new and improved designs.

▪ *Single-Stage Centrifugal Pump*

Type LT single-stage centrifugal pump is a new Worthington development offered in sizes from 1½-inch to 4-inch discharge. This line of pumps is primarily designed for handling light fractions when it is necessary to pump such fractions from a pressure near the vapor pressure.

The pump exhibited is a nominal 3-inch discharge size, the size of the suction, however, is 6-inch, thus affording very low inlet velocities. The impellers are of the latest double suction "pick up" type, taking the liquid at low velocity thus reducing the chances of vaporization. Double wearing are provided on the impeller for long life and low maintenance. A large vent from the suction volutes is cast in the casing. Extra deep stuffing boxes are provided with water



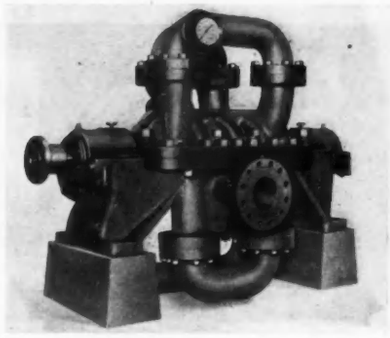
3LT Pump

jackets for cooling the packing permitting the pump to handle hot liquids. The stuffing glands are split and of the smothering type, having a constant stream of water flowing through them for flushing away any leakage of oil or gases which may find its way past the packing, thus reducing the hazard of fires.

The LT line of pumps are of heavy rugged design equipped with water jacketed ball bearings. Supports are under the bearing to prevent expansion misalignments when handling hot oils.

▪ *Pipe Line Centrifugal Pump*

The newest addition to the present Worthington line of centrifugal pumps for pipe line service is the type "UX" pump. The pump on exhibit of this type is a size 6-inch, capable of pumping 30,000 barrels per day at a pressure of 800 pounds and may be driven by either direct connected electric motor or Worthington Diesel engine through speed increasing gear unit.



6UX Pump

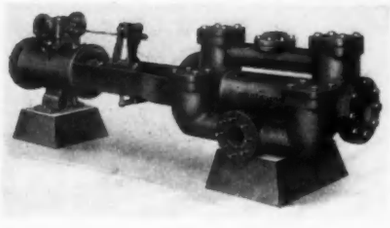
This six-stage pump has the characteristic Worthington outside loop connections between stages. The impellers are of the single-suction type operating in volute casing. They are so placed on the rotating element to permit internal hydraulic balance and with a minimum pressure differential between stage. Bearings are of the heavy duty ball type. Stuffing boxes are extra deep, one of which is subjected to suction pressure, and the other to the first stage pressure only. The casing is amply designed and reinforced to withstand excessive pressure due to line surges.

Although this type pump is a new design, its basic features are the same as the present line of Worthington centrifugal pipe line pumps now in service.

▪ *Side Pot Type Simplex Pump*

Changing practices by the refiner with a demand for direct acting steam pumps that will operate successfully on light oils with low suction pressures has caused the development of a new side pot pattern simplex pump which is shown by the size 10x5x12 on display.

The steam end of this pump is of the conventional type with simplex style A positive acting valve gear.



Side Pot 10 x 5 x 12

The fluid end is designed to reduce the clearance to the minimum possible in this type pump. Suction valves are submerged, discharge valves are placed in the highest portion of the cylinder. All liquid passages, valves and cylinders are designed with ample areas and so constructed to prevent the formation of gas pockets or gasification of the fluid pumped. The valve service is of light weight dropped forged stainless steel construction giving an extremely high strength and hardness for its weight.

This pump has many applications in the refinery or gasoline plant or may be used as boiler feed pump in the field.

▪ *Vertical Angle Air Compressor*

A Worthington 5½x3⅛x3½ type VA-2 vertical angle two-stage compressor is shown complete with multi-V-drive and 7½-horsepower, 220 V3 phase, 60-cycle alternating current motor with start and stop control, pressure switch and magnetic starter, all mounted on a common steel base.

This type compressor is entirely enclosed and fitted with Feather valves, which are simple, light and durable. The valve itself consists of a strip of light ribbon steel covering, when closed, a slightly smaller slot in the ground face slot. In opening, the valve is permitted to lift in the middle against a curved guard to allow the passage of air on either side of the strip.

Bearings are of the tapered roller anti-friction type, requiring practically no attention. The angle construction provides a superior operating balance that eliminates vibration. Lubrication is automatic, positive and generous.

▪ *Gas Engines*

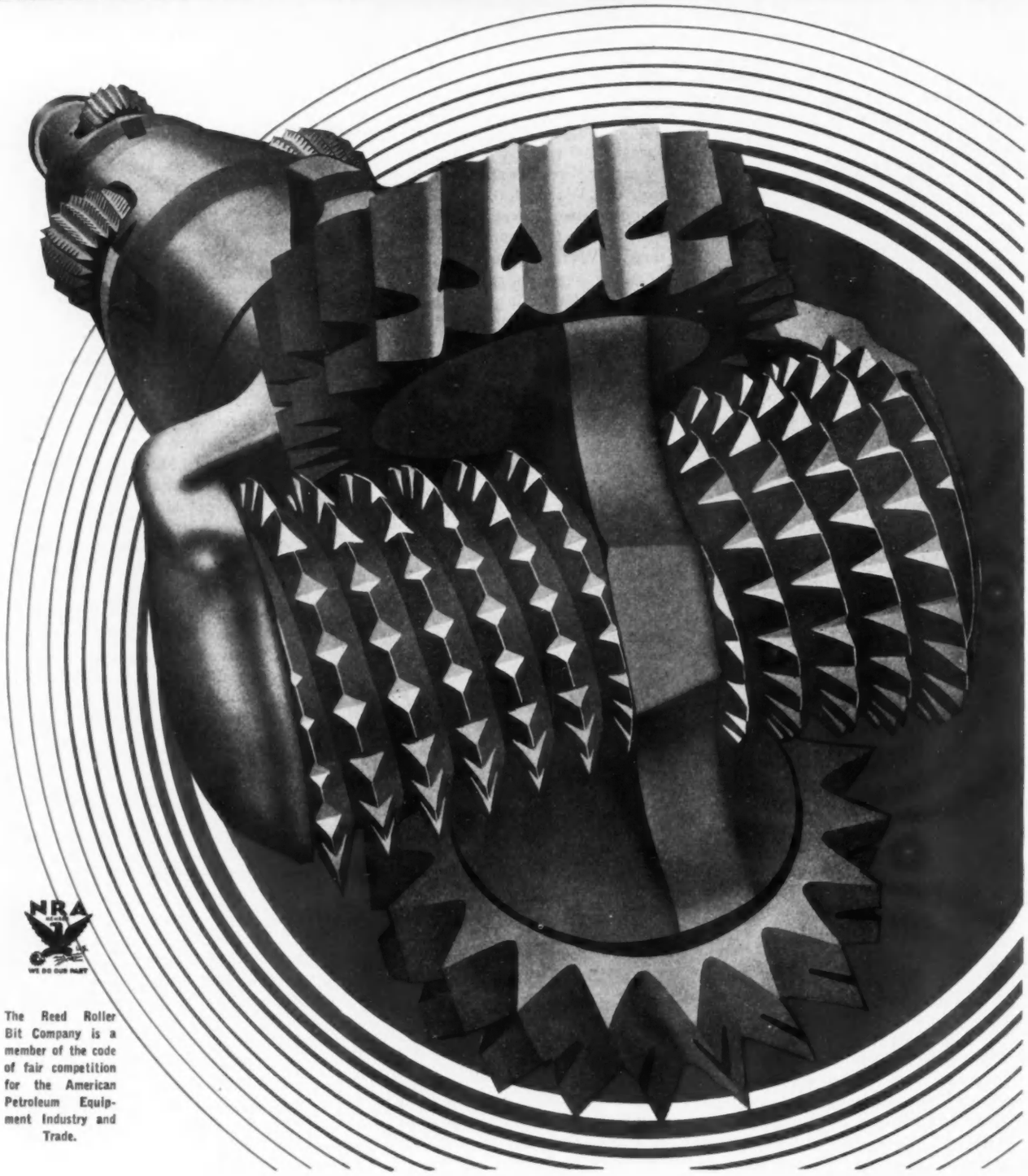
Worthington is showing a two-cylinder, type BG2, 60 brake horsepower at 514 revolutions per minute, 9x10½, four-cycle vertical gas engine, which is of the single acting vertical trunk piston multi-cylinder design.

The base is made of cast iron of substantial design with rigid transverse members bored for main bearing shells. The frame is made of cast iron and is bolted securely to the bedplate. Large doors provide complete access to the main bearings and running gear. The upper part of the frame is bored to receive the cylinder liners and the space between the frame and liners forms the water jacket. Large openings permit cleaning the water jacket space.

Main bearings consist of a concen-

Speed Safety

...REC



NRA
WE DO OUR PART

The Reed Roller Bit Company is a member of the code of fair competition for the American Petroleum Equipment Industry and Trade.

and Endurance

ORDS

in WELL AFTER WELL
EVERYWHERE
PROVES DEPENDABILITY

The New REED ROLLER BEARING ROCK BITS

★ DRILL FASTER WITH LESS WEIGHT

★ KEEP HOLE STRAIGHT . . .

★ MINIMIZE FISHING JOBS . .

★ SAVE MANY DRILLING DAYS

★ SAVE MONEY!

REED ROLLER BIT CO.

P. O. BOX 2119, HOUSTON, TEXAS, U. S. A.

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150 BROADWAY,
NEW YORK, N. Y.

1317 ESPERANZA ST.,
LOS ANGELES, CALIF.

Main Plant:
HOUSTON, TEXAS

Branches at:
KILGORE, TEXAS
LAKE CHARLES, LA.

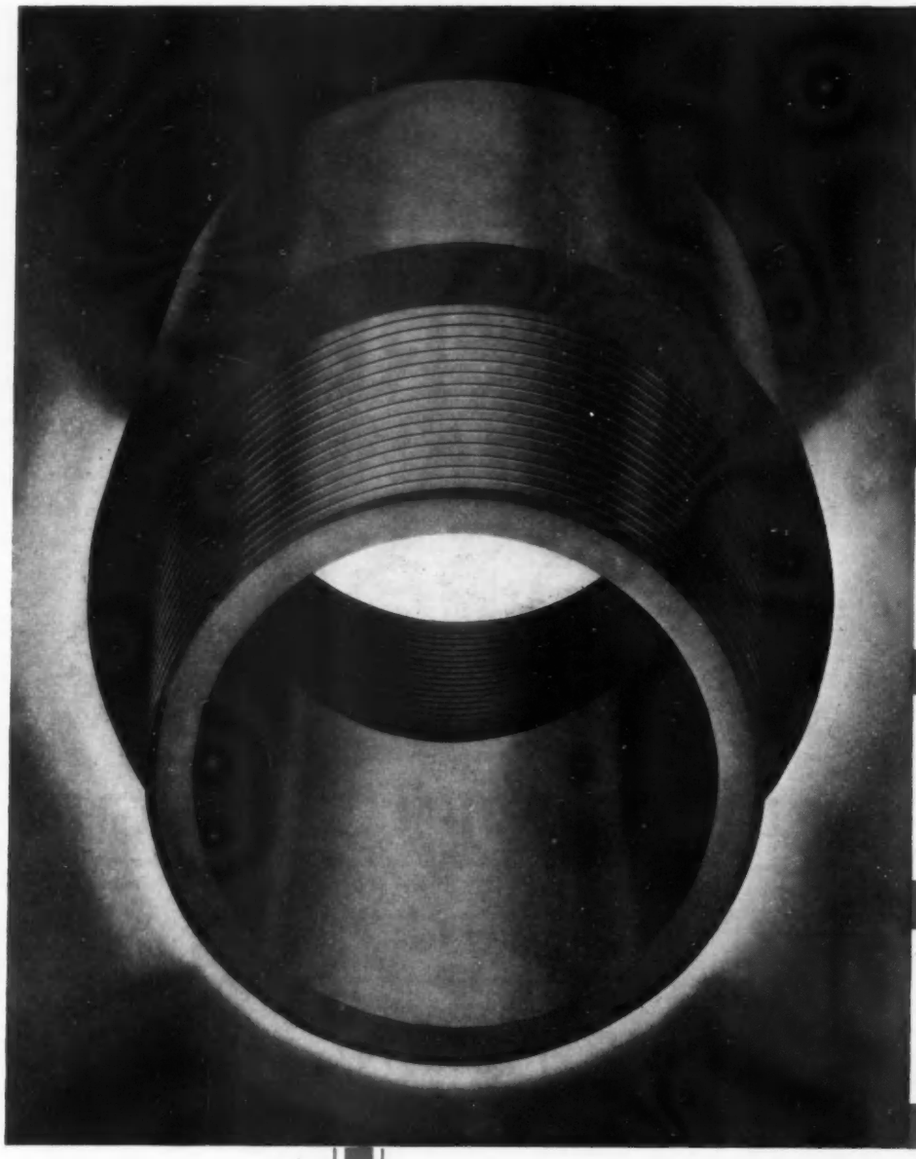
London Office:
COVENTRY HOUSE, SOUTH PLACE,
LONDON, E. C. 2

1129 SOUTHEAST 29TH ST.,
OKLAHOMA CITY, OKLA.

Distributed through Supply Companies Everywhere
Mid-Continent and Gulf Coast Distributors for MARTIN-DECKER PRODUCTS
Pacific Coast Distributors for MISSION MANUFACTURING PRODUCTS

SEE PAGES 299-434
1934 COMPOSITE
CATALOG OF OIL
FIELD EQUIPMENT.

The NEW STANDARD OF THE INDUSTRY



REED FULL HOLE TOOL JOINTS

UNOBSTRUCTED and MORE MUD FLOW
AT LOWERED PUMP PRESSURES WITH
INCREASED DRILLING SPEEDS

NRA
U.S.
WE DO OUR PART

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REED ROLLER

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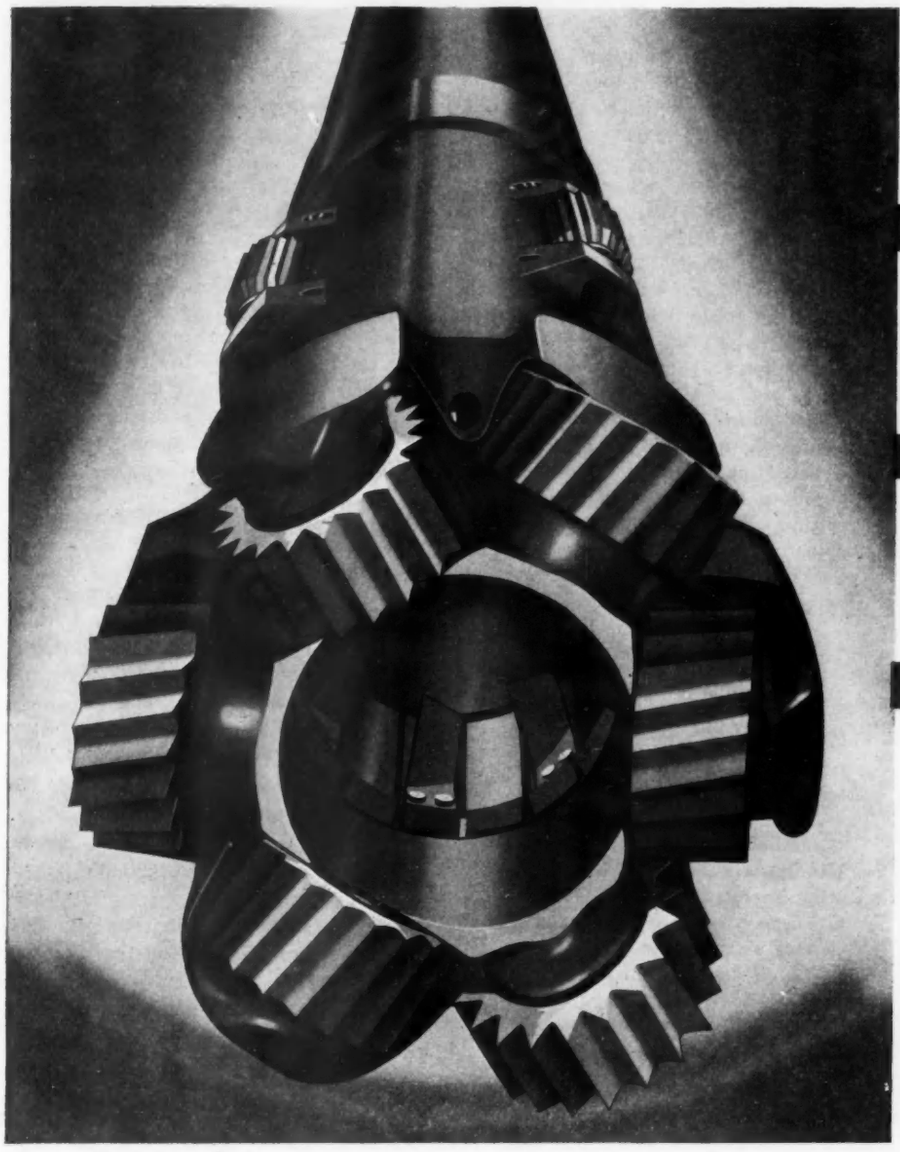
The NEW MODEL 'B'



REED CORE DRILL

FOR LOWERED CORING COSTS

CUTS LARGER-LONGER CORES

SIMPLIFIED UNIT CONSTRUCTION
FAST EFFICIENT CUTTER ASSEMBLY

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Pacific Coast Distributors for MISSION MANUFACTURING PRODUCTS

tric babbitted shell fitted in bored seats in the base. The caps are of cast iron lined with babbitt. The bottom shells may be removed without disturbing the crankshaft. The main bearing on the flywheel end is made extra long to take care of the additional weight of the wheel. The crankshaft is die pressed from open hearth steel, annealed and heat treated, and is made in one piece. Connecting rods are drop forgings of high grade steel and fitted with marine type steel boxes lined with babbitt on the crank pin ends. The wrist pin ends are forged solid and fitted with solid bronze bushings. The cylinder liners are of hard cast iron of special mixture. Cylinder heads are of cast iron, carefully designed to give symmetrical arrangement of the valve openings and equal distribution of metal.

▪ *Hivol Piston Pumps*

This pump has been designed particularly for handling highly volatile liquids. It is truly a so-called "close clearance" pump, and in addition has an improved design of valves and valve locations.

The cylinder is of Wompco of special form to reduce clearances between the suction and discharge valves and in the pump chamber, to enable the pump to handle large volumes of volatile liquids. Accessibility of all parts, however, has not been sacrificed. Provisions have been made to eliminate the possibility of vapor binding. Cylinder liners are removable. Gas compressor principles are utilized to obtain close clearances. Straight line flow of liquid insures minimum turbulence. These pumps have end suctions and top discharges to simplify piping connections. A rigid cast yoke prevents misalignment of steam and liquid ends. Stuffing boxes are extra deep. They have adjustable valve gear and cushion control on the steam end.

▪ *Rotary Pumps*

Worthington rotary pumps have few moving parts, nothing to wear rapidly or break. They are small and compact. Only one stuffing box is used to pack. They may be direct coupled to motor. The pumps may be quickly disassembled for inspection. Automatic lubrication of internal bearing type.

Bearings are of high grade leaded bronze on the internal bearing type with large bearing areas that insure long life. The liquid pumped is forced through the entire length of each bearing and is returned to the suction through drilled ducts. Bronze is used on all rotors up to and including size No. 25, which are Steeline. Rotors are 12 tooth, continuous cut, herringbone construction, will not trap liquid between the teeth or allow axial thrust of lateral misalignment. One rotor will drive the other without the necessity of external timing gears. The shafting is of high grade steel of large diameter.

The pump body is of close grained grey iron, designed with large, unobstructed passageways that allow the liquid to flow freely to and from the rotors. The body is accurately machined so that there is only a few thousandth clearance between the body and rotors.

▪ *Monobloc Centrifugal Pumps*

The company is also displaying a one-inch type D monobloc centrifugal motor pump, which has a minimum number of parts; essentially a casing, an impeller and a motor. The casing is bolted to the motor frame, thus maintaining permanent alignment and eliminating the usual heavy baseplate. The impeller is of unit construction, consisting of two enclosed type impellers cast back-to-back. The impeller is keyed and held to the shaft by an impeller lock nut.

▪ *Air Compressor Units*

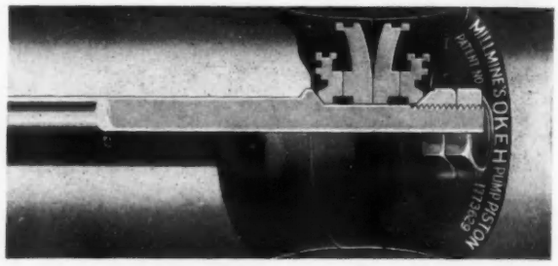
Worthington is showing an angle type VA-2 compressor unit, mounted over tank, with fully automatic start and stop control. They are rugged and compact, and carefully balanced for smooth, quiet operation.

Texas Rubber & Specialty Corporation

Texas Rubber & Specialty Corporation, Houston, Texas, is featuring in its exhibit of "Okeh" and "Trasco" products, including slush pump pistons, valves, liners and rods, and mechanical rubber goods for the industry, the Okeh piston and new Okeh "34" valve.

▪ *Slush Pump Piston*

The Okeh piston has a steel backbone and rod contact to overcome

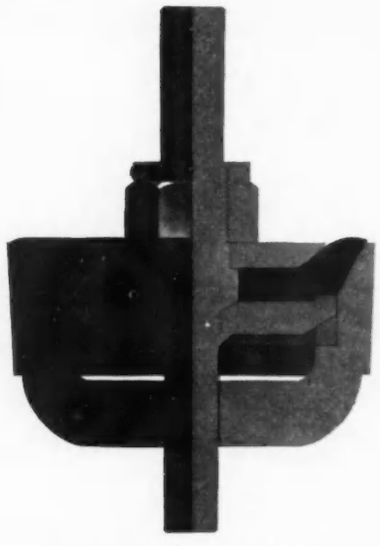


Okeh Slush Pump Piston

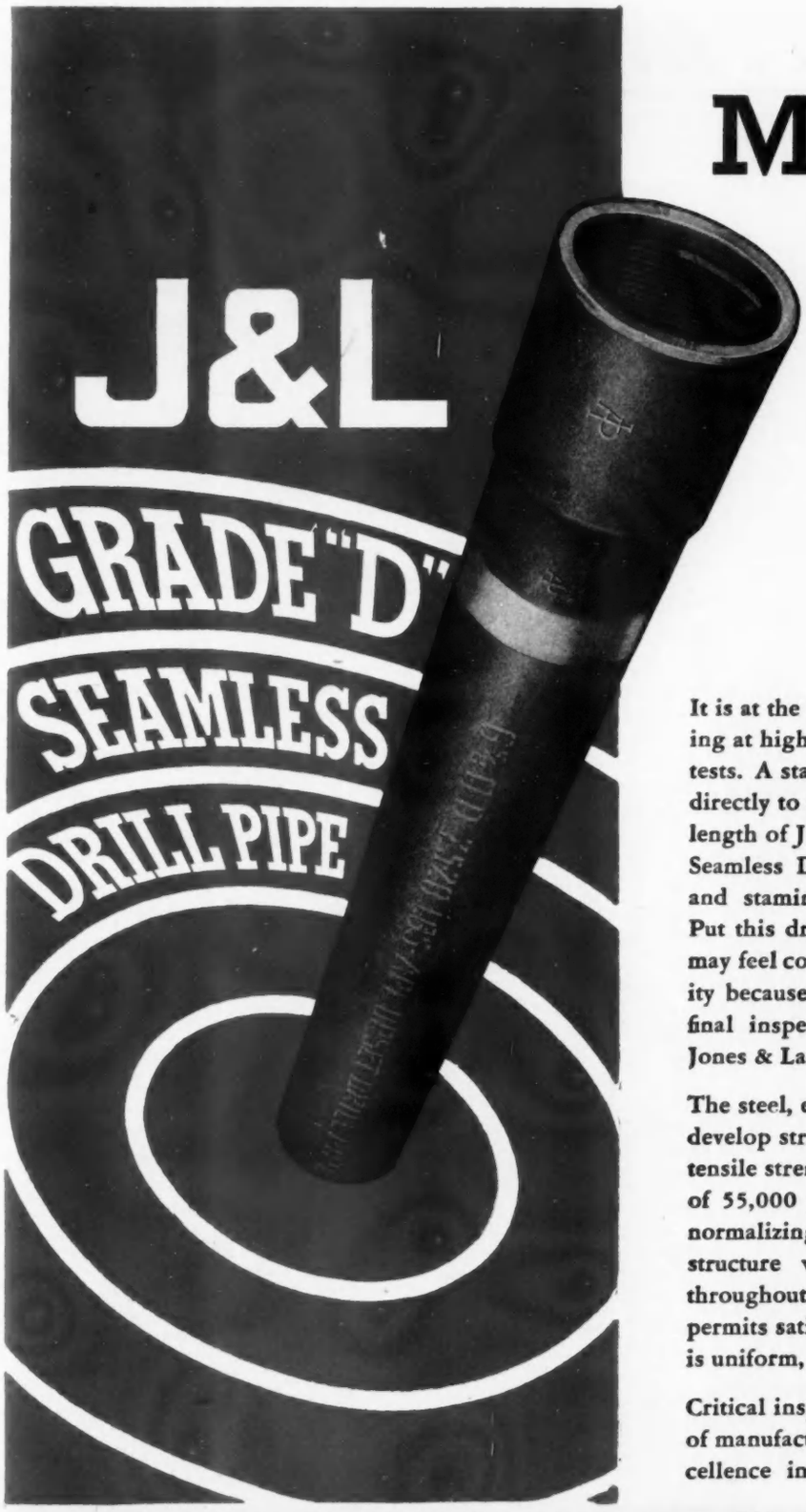
loosening on rods at high pressures. The piston, rod and nut are ground in assembly position to effect proper ground joint fit, steel to steel, and a concave sealing lip which expands to seal, corresponding to pressure developed by the pump.

▪ *Slush Pump Valve*

The new Okeh"34" valve is adapted to fit all types of slush pumps. The rubber sealing member has an oversized lip which slides, under restrained compression, against steel taper on the valve seat to minimize metal to metal hammering. A steep taper on the valve seat permits the valve to be self-cleaning. Design of the valve is such that shock is absorbed in the rubber, and such that before the slush is allowed to discharge, the rubber sealing member has moved away from its steel seat, to eliminate restriction of flow, and cutting effect. Construction provides for the replacement of a heat-treated steel ring, on which this design throws the wear, protecting the valve seat.



Okeh Slush Pump Valve



MADE TO TAKE BOTTOM-OF-THE-HOLE PUNISHMENT

CASING DRILL PIPE · TUBING LINE PIPE · J&L PIPE · SEAMLESS · WELDED

It is at the bottom of deep holes, with tools working at high speed, that drill pipe gets the severest tests. A stalled bit transmits a tremendous shock directly to the bottom lengths of drill pipe. Every length of J & L Grade "D" Interior Upset A.P.I. Seamless Drill Pipe is made with the strength and stamina to withstand such severe service. Put this drill pipe to the test of hard use. You may feel confident of its high quality and uniformity because its production — from ore mines to final inspection — is completely controlled by Jones & Laughlin.

The steel, especially made in the J & L Works to develop strength and toughness, has a minimum tensile strength of 95,000 pounds and yield point of 55,000 pounds per square inch. Full length normalizing after upsetting gives uniform grain structure with maximum physical qualities throughout the entire piece. Substantial upsetting permits satisfactory re-threading. Wall thickness is uniform, and threads are smooth and accurate.

Critical inspections and tests, made at every stage of manufacture, assure J & L high standard of excellence in J & L Grade "D" Drill Pipe.

J&L STEEL

JONES & LAUGHLIN STEEL CORPORATION
AMERICAN IRON AND STEEL WORKS
JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA

Sales Offices: Atlanta Boston Buffalo Chicago Cincinnati Cleveland Dallas Denver Detroit Erie Los Angeles Memphis Milwaukee Minneapolis New Orleans New York Philadelphia Pittsburgh St. Louis San Francisco
Warehouses: CHICAGO CINCINNATI DETROIT MEMPHIS NEW ORLEANS PITTSBURGH
Canadian Representative: JONES & LAUGHLIN STEEL PRODUCTS COMPANY, Pittsburgh, Pa., U. S. A. and Toronto, Ont., Canada.

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Alexander Anderson, Inc.

▪ ***Photo-Record Survey Instrument***

Alexander Anderson Survey Instrument

Alexander Anderson, Inc., of Fullerton, California, is showing the Anderson photo-record magnetic single-shot oil well survey instrument that gives both direction and inclination at any time and at any depth in open hole while it is being drilled.

This instrument depends on a plumb bob to give the angle of inclination from the vertical and on a magnetic compass to show the direction of such inclination. The plumb bob hangs directly over the compass. When the bob and compass card have come to rest at the depth in the well where the reading is to be taken, a single photographic exposure records them on a metal-rimmed sensitized disc that is pre-printed with inclination circles. The developed disc gives a clear, simple and permanent record of the angle and direction of inclination.

Simplicity and ease of operation are outstanding features of the apparatus. The record discs may be loaded into the instrument at the well in broad daylight. The apparatus is run into the hole on a wire line and the photographic exposure is made automatically when a watch closes an electric circuit at any predetermined time. The discs are ejected from the instrument into a small, light-tight rubber cup and are developed and fixed in four minutes right on the derrick floor. The record is then immediately available for use. No knowledge of photography or mathematics is required.

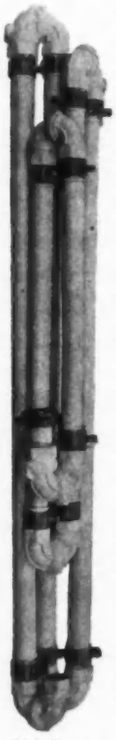
To meet every condition with an extreme degree of accuracy, three interchangeable units with maximum of 10, 25 and 65 degrees are provided. Inclinations can be measured within one quarter degree with the 10° unit; within one half degree with the 25° unit; and within one degree with the 65° unit.

Other underground surveying instruments of Alexander Anderson, Inc., include the standard orienting survey for inclination and direction; the standard magnetic survey machine; the fuse single-shot magnetic survey instrument; the Anderson go-devil; and the Celco acid bottle go-devil.

Chiksan Oil Tool Company, Ltd.

▪ ***All Steel Rotary Hose***

Chiksan Oil Tool Company, Ltd., of Fullerton, California, is introducing to the industry a four-inch super rotary hose, which is being shown by the Gulf Engineering Company of Houston.



Chicksan Super Rotary Hose

Its unique and simple construction clearly illustrates the reason for its unusual flexibility at any working pressure up to 3000 pounds. The swivel joints are now held securely together by double ball races that greatly increases the bearing surface, and yet, with such sturdy construction, the complete hose, 45 feet long, weighs but 1140 pounds.

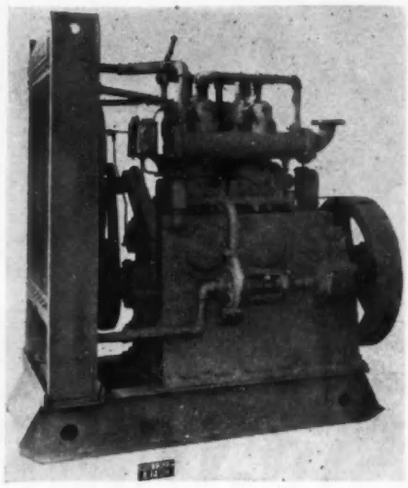
Also on display, are four-inch and six-inch swivel joints that are used as dock riser connections so that the dock hose may be swung into any desired position. Sizes range from four-inch to 12-inch and are extremely flexible. These swivel joints will work perfectly, conveying crude oil, fuel oils, casinghead gasoline or even butane. Complete 60 feet dock hose are manufactured also, as well as joints for cementing trucks, loading racks or steam lines.

Atlas Imperial Diesel Engine Company

▪ ***Engines***

Atlas Imperial Diesel Engine Company, Oakland, California, is exhibiting with Southern Engine & Pump Company, Houston, who are its Gulf Coast distributors.

The unit displayed is a two-cylinder, vertical power unit, specially mounted for portable and semi-portable service. The engine is designed for operation on natural gas and can be converted to a Diesel type. This natural gas power unit is particularly designed for operation of pumps on oil wells.



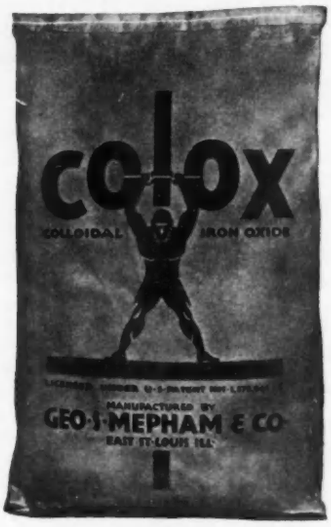
Atlas Imperial Power Unit

Atlas Imperial also manufactures stationary, marine and portable service Diesel engines. The portable units are designed especially for use on drilling rigs.

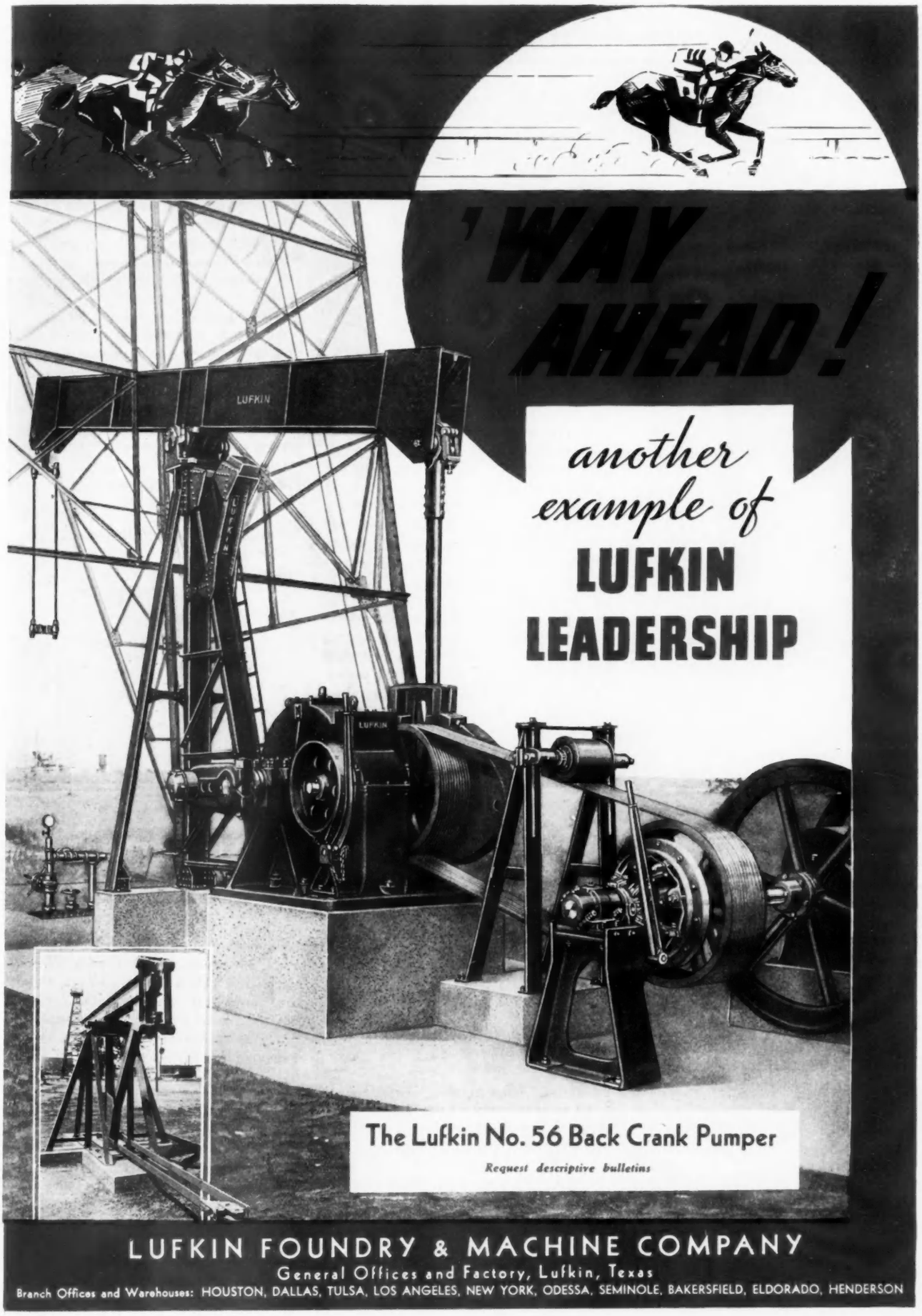
George S. Mepham Corporation

▪ ***Drilling Muds***

Geo. S. Mepham Corporation, East St. Louis, Illinois, is exhibiting "Colox" mud weight material and a recently introduced product, "Spud Clay." The latter, as the name implies, is for initial drilling, and is a pure white mud of high colloidal content that sells at a reasonable price.



The company also is displaying a complete assortment of instruments used in checking drilling muds.



LUFKIN FOUNDRY & MACHINE COMPANY

General Offices and Factory, Lufkin, Texas

Branch Offices and Warehouses: HOUSTON, DALLAS, TULSA, LOS ANGELES, NEW YORK, ODESSA, SEMINOLE, BAKERSFIELD, ELDORADO, HENDERSON

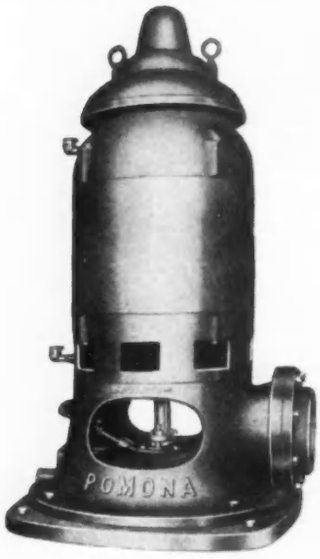
EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Pomona Pump Company

▪ ***Turbine Pumps***

Pomona Pump Company, Pomona, California, is exhibiting its turbine pumps, distributed in the Gulf Coast by Southern Engine & Pump Company, Houston, Texas.

The rugged, heavy construction and simplicity of design of Pomona turbine pumps makes them adaptable to practically every water pumping condition. The line shaft is fitted with non-corrosive stainless steel journals or bearing contacts, and equipped with Pomona patented full-floating, resilient, self-flushing bearings, which revolve around and with the shaft. The centrifugal action of the line shaft bearings repel any sand or abrasives floating in the water, thus preventing damage to the bearing or shaft. All sub-surface bearings are lubricated by the water flowing up the column.



Pomona Turbine Pump

The Sullivan Company

The Sullivan Company, Memphis, Tennessee, has the following products on exhibit at the Oil Equipment and Engineering Exposition:

▪ ***Slush-Mix***

Sullivan Slush-Mix is an improved mud lubricator, sealer and heavier. It greases the bit, fills caves and weak spots in the hole walls, controls gas, repels friction and corrosion.

▪ ***Fissurseal***

This is a product that is used for lost circulation jobs, in caving shale, etc. Fissurseal holds and walls up heaving and caving shale, sand, etc., fills caves, fissures, crevices and seals off leakages. The manufacturers state that by the use of Fissurseal a complete water shut-off is assured and that it can be used back of the casing in a great many cases in place of cement.

▪ ***Gelite***

Sulco Gelite is a rotary mud compound, the most important characteristics of which are its colloidal action and plasticity and its ability to keep mud and other ingredients in suspension.

▪ ***Konset***

Konset is a liquid integral cement accelerator, hardener, water-proofer and anti-freeze compound. It is a substance that brings about a reaction, but does not enter as a compound in the product, and is termed a catalyst. The normal products of hydration are not changed, but merely made to perform at a more rapid rate. Konset is recommended wherever Portland cement is used, particularly for water-proofing and hardening of cement under adverse conditions.

▪ ***Cmento***

This is a Sullivan Company product for water-proofing, quick-hardening for permanent or temporary cementing. It also enables the operator to overcome difficulties encountered in pulling casing.

▪ ***Oil Well Reviver***

A chemical that produces an intense heat which is maintained for hours. It will not injure casing, tubing, rods, metal or wood, but removes paraffin and asphaltum—making pumping easy and eliminates many pulling and operating troubles. It is non-explosive and non-inflammable.

▪ ***Kleen-A-Well***

Kleen-A-Well is a chemical for cleaning oil wells of paraffin or asphaltum, gypsum or salt from gas, thereby increasing the production. It merely melts away the foreign deposits.

▪ ***Kleen-Oil***

A chemical for repeatedly reclaiming cut oil.

▪ ***Deflect-O-Lite Aluminum Paint***

This paint protects all metal surfaces from weather and corrosion.

▪ ***Gardex Aluminum Paint***

An oil field utility paint for all metal surfaces. It is made in black, maroon and green colors.

▪ ***Sealcote No. 3***

A colorless material for rust-proofing and preserving any surface.

▪ ***Wood Cement***

A plastic wood made by The Sullivan Company for repairing almost any surface. It is water-mixed and will take nails, screws, etc.

▪ ***Kant-Leak***

This asbestos plastic cement is used for water-proofing roofs, stills, tank tops, etc.

▪ ***Rustcotine***

A Sulco product that is a rust inhibitive and preservative. It is made in paste or semi-paste form that does not harden or oxidize like paint. A protection for all underground piping, metal, steel, etc.

▪ ***Sulco Furnace Cement***

A cement for laying up brick or surfacing.

▪ ***Mud-Flux***

A liquid for thinning rotary mud, thereby decreasing the viscosity which makes pumping easier.

▪ ***Solrite Boiler Treatment***

Solrite is for use in boiler feed water. It makes hard water soft, prevents corrosion, scaling, pitting or foaming.

Barco Manufacturing Company

▪ ***Barco Flexible Ball Joint***

The Barco flexible ball joint is being exhibited in several types that have been widely applied in the oil industry. Flexible connections to take care of expansion as applied to oil field boilers are shown, as well as high pressure flexible connections on mud-pumps, for the elimination of trouble due to expansion and vibration.

Barco Flexible Ball Joint

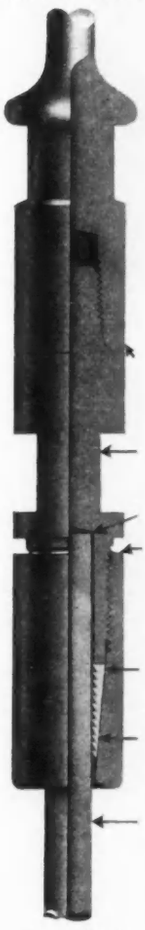
Barco flexible ball joints for low pressure service such as loading racks and connections to tanks are also shown. A complete exhibit of joints, both sectional and dis-assembled will be available in standard pattern, 300 pounds steam working pressure and 2500 pounds hydraulic. The Barco flexible ball joint has been widely adapted to use in the Gulf Coast area and is on exhibit in the booth of M. N. Dannenbaum Company, Booths 522, 524, 623, and 625.

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Kinzbach Tool Company

▪ *Pony Rod Eliminator*

Kinzbach Tool Company, Houston, is exhibiting its pony rod eliminator that eliminates necessity of keeping in stock various rod lengths for making up a string. It permits the use of any extra piece of sucker rod, sawed off to required length. The sawed joint is placed in the pony rod eliminator and held securely with slips and locking bowl.



Pony Rod Eliminator

▪ *Portable Pipe Grooving Machine*

The Kinzbach portable pipe grooving machine cuts off and bevels pipe ends for welding or grooves pipe for Victaulic couplings. It is suspended from an H-frame which leaves it free to line up on pipe, and is electrically operated, being driven by a portable generator. It will handle any size pipe and the company will contract for any length of line.

To load the machine, pipe is rolled onto skids and into the barrel of the machine, where it is locked in position. Cutting is completed in one operation. A machine is placed at each end of skid to machine both ends as pipe is carried over.

Kinzbach Mill

▪ *Kinzbach Mill*

In this device, high speed tool steel cutters, set spirally in high quality steel head, cuts a long, clean, consistent window. This principle lessens the chance for twist-off due to tool large bites, according to the manufacturer. Ample clearance between the blades facilitates removal of cuttings.

▪ *Utility Hoist*

This is a safety hoist that handles five tons with a single five eighths-inch line. It has no rope cat-line and is controlled with powerful multiple disc clutch operated by foot pedal and disc brake controlled by hand lever. Handles all hoisting operations supplementary to the rotary hoist. It is made in size power shaft and doesn't interfere with regular drawworks mechanism.

▪ *Metal Gaskets*

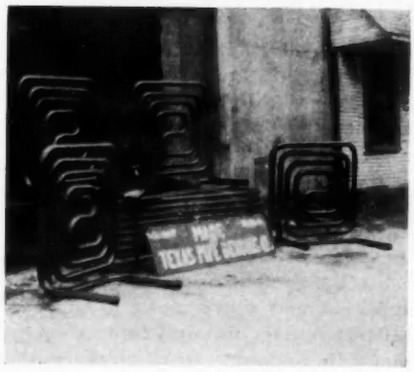
Kinzbach steel and bronze ring gaskets in all sizes are machined to exact specifications to meet varied requirements for high and low pressure fittings.

Texas Pipe Bending Company

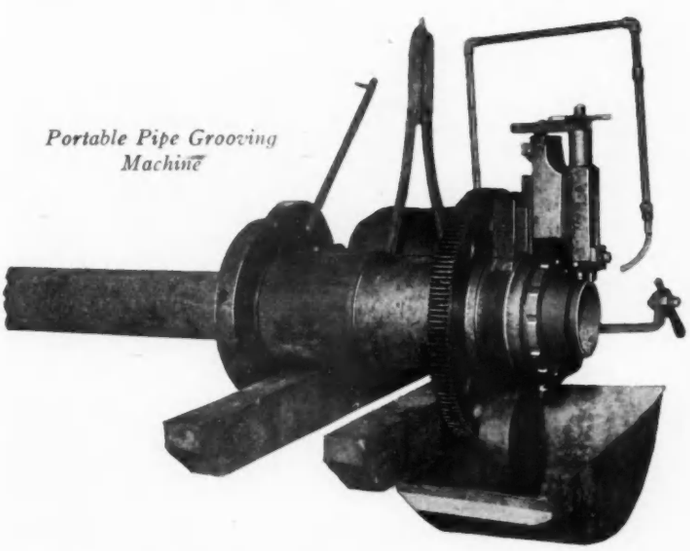
▪ *Pipe Fabrications*

Welding fittings, high- and low-pressure coils, van-stoned joints, and bends of various kinds are featured in the exhibit of Texas Pipe Bending Company.

The accompanying cut is of a set of cooling coils, made from genuine wrought iron. These were fabricated at the Houston plant, according to specifications furnished by the purchasers' engineers. The piping will meet expansion, pressure and technical problems encountered in the purchasers' plant.



Cooling Coils fabricated from genuine Wrought Iron Pipe



Portable Pipe Grooving Machine

Kinzbach Metal Gaskets

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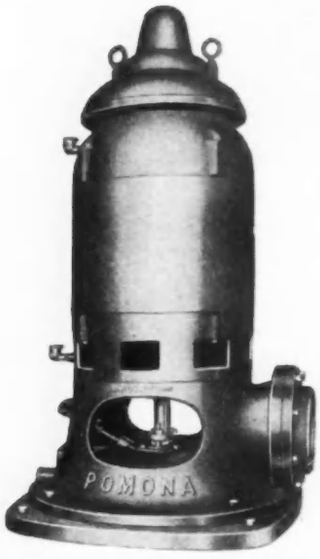

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▪ ***Cmento***

This is a Sullivan Company product for water-proofing, quick-hardening for permanent or temporary cementing. It also enables the operator to overcome difficulties encountered in pulling casing.

▪ ***Oil Well Reviver***

A chemical that produces an intense heat which is maintained for hours. It will not injure casing, tubing, rods, metal or wood, but removes paraffin and asphaltum—making pumping easy and eliminates many pulling and operating troubles. It is non-explosive and non-inflammable.

▪ ***Kleen-A-Well***

Kleen-A-Well is a chemical for cleaning oil wells of paraffin or asphaltum, gypsum or salt from gas, thereby increasing the production. It merely melts away the foreign deposits.

▪ ***Kleen-Oil***

A chemical for repeatedly reclaiming cut oil.

▪ ***Deflect-O-Lite Aluminum Paint***

This paint protects all metal surfaces from weather and corrosion.

▪ ***Gardex Aluminum Paint***

An oil field utility paint for all metal surfaces. It is made in black, maroon and green colors.

▪ ***Sealcote No. 3***

A colorless material for rust-proofing and preserving any surface.

▪ ***Wood Cement***

A plastic wood made by The Sullivan Company for repairing almost any surface. It is water-mixed and will take nails, screws, etc.

▪ ***Kant-Leak***

This asbestos plastic cement is used for water-proofing roofs, stills, tank tops, etc.

▪ ***Rustcotine***

A Sulco product that is a rust inhibitive and preservative. It is made in paste or semi-paste form that does not harden or oxidize like paint. A protection for all underground piping, metal, steel, etc.

▪ ***Sulco Furnace Cement***

A cement for laying up brick or surfacing.

▪ ***Mud-Flux***

A liquid for thinning rotary mud, thereby decreasing the viscosity which makes pumping easier.

▪ ***Solrite Boiler Treatment***

Solrite is for use in boiler feed water. It makes hard water soft, prevents corrosion, scaling, pitting or foaming.

Barco Manufacturing Company

▪ ***Barco Flexible Ball Joint***

The Barco flexible ball joint is being exhibited in several types that have been widely applied in the oil industry. Flexible connections to take care of expansion as applied to oil field boilers are shown, as well as high pressure flexible connections on mud-pumps, for the elimination of trouble due to expansion and vibration.

Barco Flexible Ball Joint

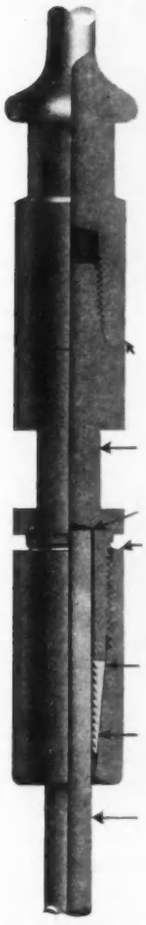
Barco flexible ball joints for low pressure service such as loading racks and connections to tanks are also shown. A complete exhibit of joints, both sectional and dis-assembled will be available in standard pattern, 300 pounds steam working pressure and 2500 pounds hydraulic. The Barco flexible ball joint has been widely adapted to use in the Gulf Coast area and is on exhibit in the booth of M. N. Dannenbaum Company, Booths 522, 524, 623, and 625.

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Kinzbach Tool Company

▪ *Pony Rod Eliminator*

Kinzbach Tool Company, Houston, is exhibiting its pony rod eliminator that eliminates necessity of keeping in stock various rod lengths for making up a string. It permits the use of any extra piece of sucker rod, sawed off to required length. The sawed joint is placed in the pony rod eliminator and held securely with slips and locking bowl.



Pony Rod Eliminator

▪ *Portable Pipe Grooving Machine*

The Kinzbach portable pipe grooving machine cuts off and bevels pipe ends for welding or grooves pipe for Victaulic couplings. It is suspended from an H-frame which leaves it free to line up on pipe, and is electrically operated, being driven by a portable generator. It will handle any size pipe and the company will contract for any length of line.

To load the machine, pipe is rolled onto skids and into the barrel of the machine, where it is locked in position. Cutting is completed in one operation. A machine is placed at each end of skid to machine both ends as pipe is carried over.

Kinzbach Mill

▪ *Kinzbach Mill*

In this device, high speed tool steel cutters, set spirally in high quality steel head, cuts a long, clean, consistent window. This principle lessens the chance for twist-off due to tool large bites, according to the manufacturer. Ample clearance between the blades facilitates removal of cuttings.

▪ *Utility Hoist*

This is a safety hoist that handles five tons with a single five eighths-inch line. It has no rope cat-line and is controlled with powerful multiple disc clutch operated by foot pedal and disc brake controlled by hand lever. Handles all hoisting operations supplementary to the rotary hoist. It is made in size power shaft and doesn't interfere with regular drawworks mechanism.

▪ *Metal Gaskets*

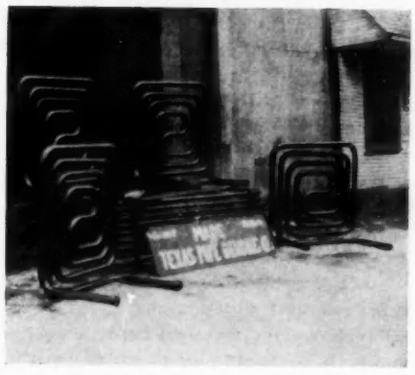
Kinzbach steel and bronze ring gaskets in all sizes are machined to exact specifications to meet varied requirements for high and low pressure fittings.

Texas Pipe Bending Company

▪ *Pipe Fabrications*

Welding fittings, high- and low-pressure coils, van-stoned joints, and bends of various kinds are featured in the exhibit of Texas Pipe Bending Company.

The accompanying cut is of a set of cooling coils, made from genuine wrought iron. These were fabricated at the Houston plant, according to specifications furnished by the purchasers' engineers. The piping will meet expansion, pressure and technical problems encountered in the purchasers' plant.



Cooling Coils fabricated from genuine Wrought Iron Pipe

Portable Pipe Grooving Machine

Kinzbach Metal Gaskets

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Mosher Steel Company

▪ *Mosher Pumping Unit*

Mosher Steel Company is showing a geared pumping unit. The large herringbone gear is 50 inches in diameter and has a 10-inch face. The shaft is 6½ inches in diameter. The high speed shaft has roller bearings, all other bearings are bronze.

The walking beam has a reservoir in the center feeding bearings. All bearings in unit, walking beam, sampson post and hanger are flood oiled.

The special advantage of the unit is in the adjustment of the weights on the cranks. They have an adjustment of 360 degrees. Without adding or deducting from the weights but simply changing the position, the balance can be changed. It is especially adapted for a back side crank pumping of one or more additional wells. For a two well hook-up the weights would be placed between the two loads taking up any inequality in balance and acting as a fly wheel and on any arrangement of wells the weights can be quickly adjusted to balance the load.

▪ *Derrick Sub-Structure and Engine Foundation*

Steel sub-structures for high-pressure gas and other areas provide an accessible place for well control equipment in addition to eliminating the necessity of digging a cellar.

Mosher Steel Company can provide a foundation of equal height for the drilling engine when the derrick is built on a sub-structure. This foundation consists of a special structure of steel beams bolted together. It can either be dismantled or moved as one piece. Both engine and engine foundation can be tied quickly and securely to the derrick sub-structure with the tie rods.

Askania Torsion Balance

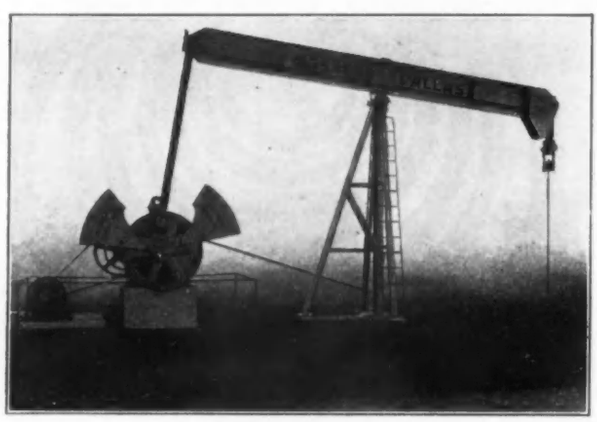
American Askania Corporation

▪ *Torsion Balance Machine*

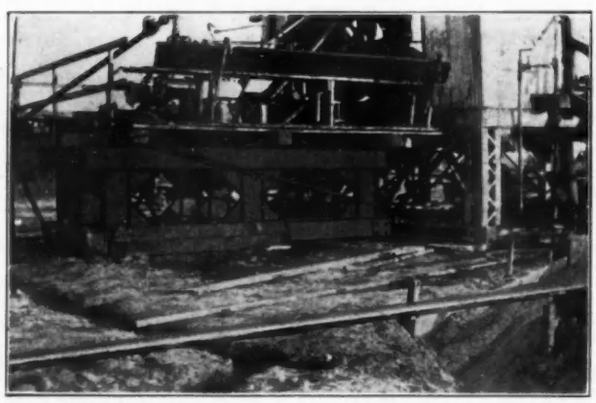
American Askania Corporation, Houston, Texas, is displaying a new torsion balance that has several distinct features. It is much more compact that previous types, consisting mainly of two inclined balance beams (hung up through a torsion wire on a new type torsion head and reversed against each other through 180 degrees) that in their respective tubes have been mounted to a central cast-aluminum casing containing the optical equipment.

The period of observation is 20 minutes only. All mirrors are easily accessible for necessary adjustments, as are the balance beams, which, through glass windows in the inner aluminum tubes, may be checked visually in their full length. The plate clock as used in other types of Askania torsion balances has been eliminated, the displacement of the dots on the photographic plate being possible through rotatable mirrors coupled with the rotation of the instrument. The new balance fits on any later type clock section and bell-shaped base of Askania torsion balances and may be operated with full automatic recording or semi-automatically by hand.

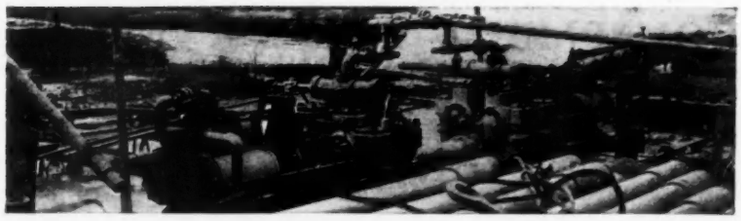
Since the height of the instrument is only about four feet, the new balance may be set up in small field huts if desired that the instrument be operated by a one-man party. The weight of the new balance is only 85 pounds for automatic operation and 55 pounds for semi-automatic, making it particularly adaptable for use by one-man parties. The economy of the instrument may best be visualized if one realizes that one station can be covered in one hour and 20 minutes, with four dots on the plate (three azimuths and one check.)



Mosher Geared Pumping Unit



Mosher Derrick Sub-Structure and Engine Foundation



BUCKEYE and BINGER..

PROVE THAT GUMBO BUSTER HAS KEPT PACE!

RECORD WELLS at Buckeye, Texas, and Binger, Oklahoma, clearly prove that Gumbo Buster rotary drilling equipment has kept well abreast in the march toward ever deeper production.

At Buckeye, the United North & South Development Company, using two complete Gumbo Buster rigs of the latest and heaviest type, drilled one well to 9,257 feet, and another to 8,400 feet. Even at these depths, long strings of drill stem and casing were handled with speed and ease. At Binger, Oklahoma, where the Denver Producing & Refining Company's Adah Noe has been bottomed at 9,982 feet, Gumbo Buster Pumps were on the job.

These records speak for themselves. They tell a story of consistent improvement in design and manufacture which has kept Gumbo Buster rotary drilling equipment in the front rank since the early days of Spindletop. No finer equipment is available today.

At Buckeye, Texas, Unit No. 6 well was carried to 9,257 feet. The following Gumbo Buster Equipment was used: Straight Line Crown Block; Model B 66″ Traveling Block; Model B 8″ Swivel; 26″ Oil Bath Rotary; Four-Speed Jack-Shaft Draw-works; 14″ x 13″ Twin Cylinder Engine; and two Type "G" Model C Pumps, size 14½″ x 7¼″ x 18″. On Unit No. 25 well, at Buckeye, an identical rig with the exception of the rotary, was used to drill to 8,400 feet.

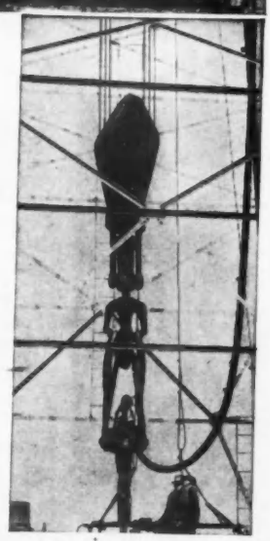
Two Gumbo Buster 14½″ x 7¼″ x 18″ mud pumps carried the Denver Producing & Refining Company's No. 1 Adah Noe, Binger, Oklahoma, to 9,982 feet. A record which speaks for itself.

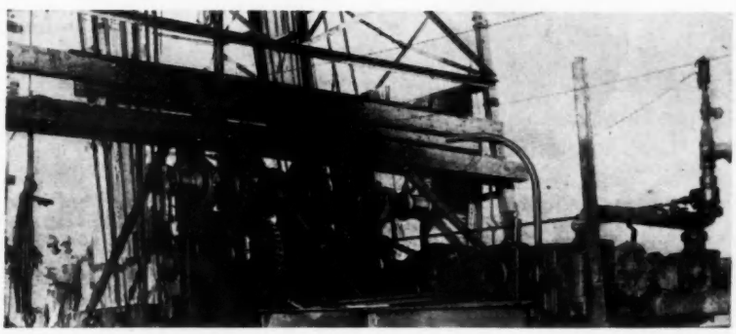
■

See our exhibit at The Oil Equipment & Engineering Exposition at Houston, April 16th to 21st.

■

Pictured, herewith, Gumbo Buster Equipment used to drill 9257 foot well at Buckeye.





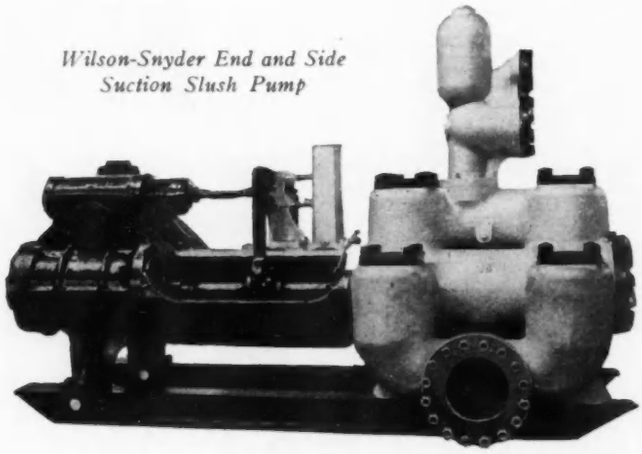
American Well & Prospecting Co.

CORSICANA . . . . TEXAS

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Wilson Supply Company

Wilson Supply Company, Houston, Texas, is displaying a variety of equipment that it distributes. Included in its exhibit are Wilson-Snyder pumps, Sievers reamers, American Cable Tru-Lay wire rope, Kewanee boilers, Driftmeter Junior, Link-Belt chain, B-J Wilson equipment, Lufkin tapes and guages, Mission slips and many other specialties and supplies.



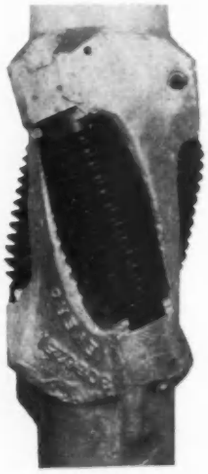
Wilson-Snyder End and Side Suction Slush Pump

▪ *Wilson-Snyder Slush Pumps*

A new combination end and side suction pump is on display. This pump has three suction openings, allowing the suction line to be connected from either side or end. This arrangement makes possible more convenient compounding, easier setting-up and eliminates elbows in the suction line. With the exception of its three suction openings, it is the same Wilson-Snyder No. 18 (14x7¼x18 inch) with 3000 pound test fluid ends.

▪ *Sievers Reamer*

The Sievers reamer has three barreled shaped cutters set at an angle in the reamer bodies. The cutter teeth or



Sievers Reamer

serrations are in the form of sharp edged parallel discs.

The entire length of the cutter is in contact with the hole wall, so that each individual disc cuts away the formation with a positive cutting action. This great amount of wall contact gives a free full-gage hole, free of tight spots and permits closer allowable tolerances between casing and hole.

When used behind the drilling it imparts a downward exertion, stabilizes the bit and prevents it from walking or gyrating, thereby insuring straight, fast drilling.

▪ *American Cable Tru-Lay Wire Rope*

Tru-Lay Pre-formed wire rope has strands put together after they have been given a helical shape. This means that each strand carries its share of the load and eliminates internal stress. Further advantages claimed by the makers are .that this wire rope resists kinking, cuts without seizing, are easier to handle and to splice.

▪ *Kewanee Boilers*

These boilers, made from the highest quality steel plates, are constructed by the standards developed in 45 years of boiler making. Kewanee boilers range in size from 50 to 125 horsepower and from 150 to 350 pounds working pressure. The ratings are highly conservative, so that when forced beyond 100 percent capacity an abundance of dry steam flows from the capacious dome.

▪ *Driftmeter Junior*

The new and simplified Driftmeter Junior for measuring deflections is being shown by Wilson Supply Company, exclusive Gulf Coast distributor. Driftmeter Junior measures and records deflections in one operation. It is accurate to less than one half degree.

Driftmeter Junior is 56 inches long, 1⅞ inches in outside diameter and weighs 20 pounds complete. No other attachments are necessary for measuring deflections. The actual angle of deflection is recorded on a disc that serves as a permanent record.

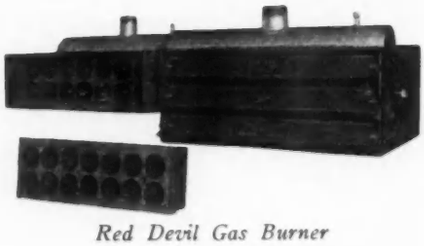
Boiler Specialty Company

▪ *Gas Burners*

Boiler Specialty Company, Houston, Texas, is exhibiting its Red Devil gas burners for firing all types of steam boilers, kilns and furnaces, and are suited especially for conditions where varying loads and automatic regulation are contemplated.

They will operate equally as well on pounds pressure and on extremely low pressures, such as from one to two ounces. These burners are of the air inspirating type, which develop great ratings and therefore permit smaller installation costs.

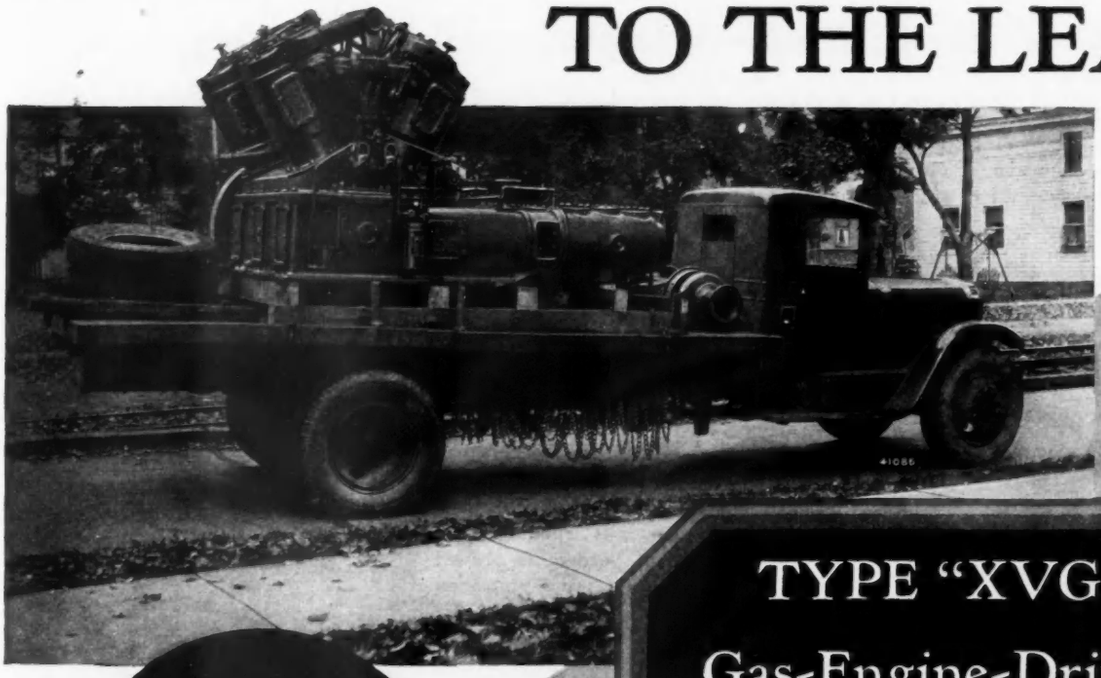
By the use of a large number of small spuds or jets the total gas is subdivided into a multiplicity of small



Red Devil Gas Burner

streams issuing from these spuds at a high velocity. The gas is then allowed to expand into the refractory venturi throats whereby air for combustion is inspirated into and through the throat, causing a thorough mixture of incoming air with gas. The fact that the mixing tubes become highly radiant speeds up combustion, producing a very short flame even on low pressures, and resulting in combustion being entirely completed in the furnace in a highly efficient manner and in overcoming the great problem without vibration, according to the manufacturer.

EASY TO TRANSPORT TO THE LEASE

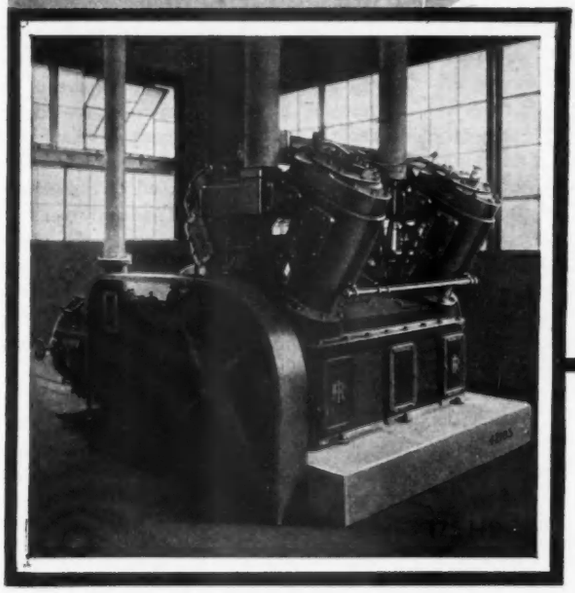


Type "XVG" units are shipped completely assembled. They can be quickly and easily trucked to the lease. Installation is a short job. Only small, inexpensive foundations are required.

TYPE "XVG" Gas-Engine-Driven Air or Gas COMPRESSORS

THE arrangement of the vertical, 4-cycle, V-type engine with horizontal standard I-R compressor cylinders makes a compact lightweight unit. It requires but a small foundation due to the inherent self-balancing of the machine. With four sizes available (60, 125, 190, 260 hp.) a plant of great flexibility can be built up, so that all running units will be fully loaded at any time. More than 95% of all working parts are interchangeable among all sizes.

WRITE FOR NEW CATALOG NO. 3065.



Ingersoll-Rand

INGERSOLL-RAND COMPANY
11 Broadway, New York City
Branches or distributors in principal cities the world over

For Canada Refer—Canadian Ingersoll-Rand Co., Limited
620 Cathcart Street, Montreal, Quebec
For Europe Refer—Ingersoll-Rand Co., Limited
165 Queen Victoria St., London, E.C.4

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Brauer Machine & Supply Company

▪ *Standpipe Valve*

Brauer Machine & Supply Company, Oklahoma City and Houston, is displaying the Brauer stand pipe valve, which is

Brauer Stand Pipe Valve

made to take the place of the commonly used gate valves in stand pipes. It is of extremely rugged construction, therefore insuring long service without interruptions. It is operated by a hand lever and takes but a second or two to switch from one stand pipe to the other. This stand pipe valve is drained automatically, thereby eliminating any danger of freezing.

The company is also exhibiting its hydraulic wall hook, which has been in wide usage.

Brauer Hydraulic Wall Hook

Transportation Equipment Company

▪ *Front Drive Axle Unit*

Transportation Equipment Company, Houston, is displaying the Timken developed front drive axle for Ford V-8 trucks, which give the new model trucks four driving wheels. The first of these units is being exhibited at the show in the Ford booth.

The front drive axle works in unison with the rear axle, providing greater traction than is needed for going through mud and sand.

▪ *Bendix B-K Vacuum Power*

Vacuum used to operate the B-K power cylinder exists at any time while a carburetor-fitted engine is running. The maximum degree of vacuum is present when the engine is running under an idling position of the throttle. These brakes in no way displaces the regular mechanical or hydraulic brake system. The conventional brake linkage, levers, rods, cables, shoes and other parts are retained and utilized.

As the brake pedal is depressed, the B-K valve is opened, allowing air at atmospheric pressure to enter and act upon the piston. The B-K power cylinder piston applies the braking pressure to the brake drums.

▪ *Timken Six-Wheel Conversion Units*

The Timken six-wheel conversion unit is of simple, sturdy construction. The unit is a complete kit that includes a frame extension. New main springs specially designed and built by this unit results in remarkable riding qualities over any type of road. The Timken six-wheel conversion unit adds a third load-carrying axle, which allows a substantial increase of payload without increasing the weight on the original front axle or driving axle. This provision for extra-carrying capacity is attained with a minimum of overall vehicle length. The frame extension is also a frame reinforcement for rear end of chassis.

▪ *Timken Trailer Axles*

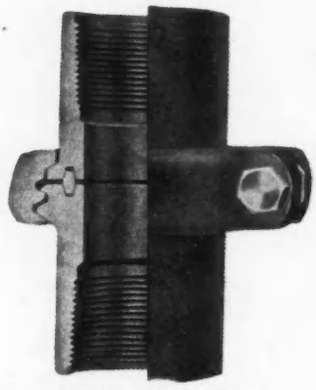
Timken trailer axles, built for all sizes and types of trailers, are fully equipped, including brakes. Axle centers are properly designed to withstand braking torque. Spindles and bearing seats are held to closest limits.

These trailers permit the use of trailer brake of any type desired. Effective oil seals retain hub lubricants; and oil deflectors prevent excess lubricant from reaching the brakes.

Red-Rex Corporation

▪ *Pipe Union*

Red-Rex Corporation, Houston, Texas, is displaying its pipe union, which has but five parts: the two hubs, the nut or clamp, the seal ring and one bolt. Because of this it may be installed quickly and easily and the pipe



Red-Rex Wing Union

does not have to be in line to start nut. One six-inch open end wrench is all that is needed to tighten the nut. To take off the union simply turn screw to left to open nut.

The parts are made of fine grade forged steel, accurately tooled. Coarse thread on the hubs and corresponding thread in the clamp ring, cut on a 30° angle, with the aid of the tapered seal ring effect a leak-proof union and at the same time provides for expansion or contraction through heat or cold. These pipe unions are capable of withstanding 6000 pounds pressure.

Revise Motion Picture Film "Petroleum"

The motion picture film "The Story of Petroleum," which was originally produced under the supervision of the U. S. Bureau of Mines in cooperation with the American Petroleum Institute, has been completely re-edited and revised to make a four-reel subject entitled "Petroleum—the Liquid Mineral." The four-reel version is a complete narrative of the petroleum industry, with the exception of refining operations, and includes prospecting, drilling, production, storage, and transportation—all of which are graphically and fully presented.

American Petroleum Institute owns the negative which carries the regular Bureau of Mines emblem and government title; but any company or association in the petroleum industry may arrange with the Bureau of Mines to have copies made up with their name instead of that of the Institute appearing in the courtesy title.

Tulsa Exposition Will Have Much of Interest

Tulsa.—New uses for chemistry, electricity and metals in connection with industrial purposes will be manifest in a large number of exhibits at the International Petroleum Exposition and Congress that will be held here May 12 to 19.

The many exhibits that have found place at the exposition, some of which are now being put in place on the grounds and in the five huge exhibit buildings, will show impfovements in equipment and bring changes as to practices pertaining to production, refining, transportation and marketing of petroleum products.

The exposition will afford comprehensive ideas as to latest improved devices and general equipment created since the last show was held in 1930. During the last three years inventive genius has not been idle, according to W. A. Schlueter, chairman of the scientific and technical committee.

Exhibits will include many new interesting features, not only of value to oil men, but also to practically every one, particularly to students of the world's progress along scientific lines, among them being special types of oil tanks preventing evaporation and fire, petroleum products, walkways and stairways, new pipe couplings and fittings, electric arc welders, welding torches, new producing and refining machinery and tools of many kinds.

The seismograph and attending methods for geophysical prospecting will make up a big feature. There will also be exhibits of power cars, in shooting oil and gas wells, firefighting equipment, automobile lifts and lifting jacks, metallic packing for use on all types of engines and compressors, a safety program to avoid accidents, service station dispensing equipment, driftmeters, tube couplings, valves, "kick off" units for flowing wells, new types of bearings, dies for collapsible taps for increased production with lower threading costs, microscopes for petrologists, wild well capping devices, gravity balances, gravitometers, testers and gaugers, liquid level controllers and pressure controllers, and heavy duty multiple drive trucks.

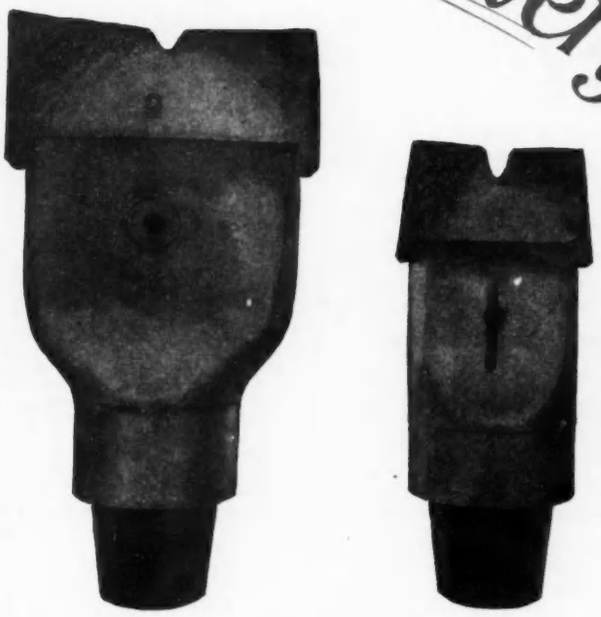
New core bits, new pumping equipment, new gaskets, plastic packing, hand chain spur gear hoists and load binders, reflectors and holders, syphon lifts, lubricating and fuel pump purifiers, piston rings, gas burners.

Seamless drill pipes, magnetos for tion cables, electric motors, explosion proof motors, splash proof motors, tubing spider, spiral plugs. New nonstretchable oil well chains, explosion proof lighting fixtures and floodlights, electrically driven twin crank pumping units, examples of nickel alloys, oil sludge pumping and reclaiming inventions, steam jet pumps, drop forged gas engines, trucks, tractors, new ignicarbon steel stainless valves, new alloys for valves, mid jack for raising concrete pavement, new combustible gas indicator.

New valve cups and seating cups, centrifugal pumps, new types of cable clamps, pneumatic pumping heads, new combination union and check valve, gum test apparatus, sand blast helmets and sand blasting machinery and accessories and chemicals for spraying, metal coating, steel blocks, speed jacks, tubing bleeders and standing valves.

The "New Recovery" Bit

NR BIT



. . . Is on display at the OIL SHOW in HOUSTON, for your study. See and learn the bit that "went over" the same month it hit the market!

The first bit with an actual shearing effect . . . . not a drag bit . . . . not a mere paddle.

Detachable blade is heat treated, then tempered (increasing strength 20 to 30%). Blade machined to fit snugly in head, locked by case-hardened pin tapered with blade so as to avoid looseness and chatter . . . . and with no friction or strain on pin, which is merely to hold blade going in and coming out of hole.

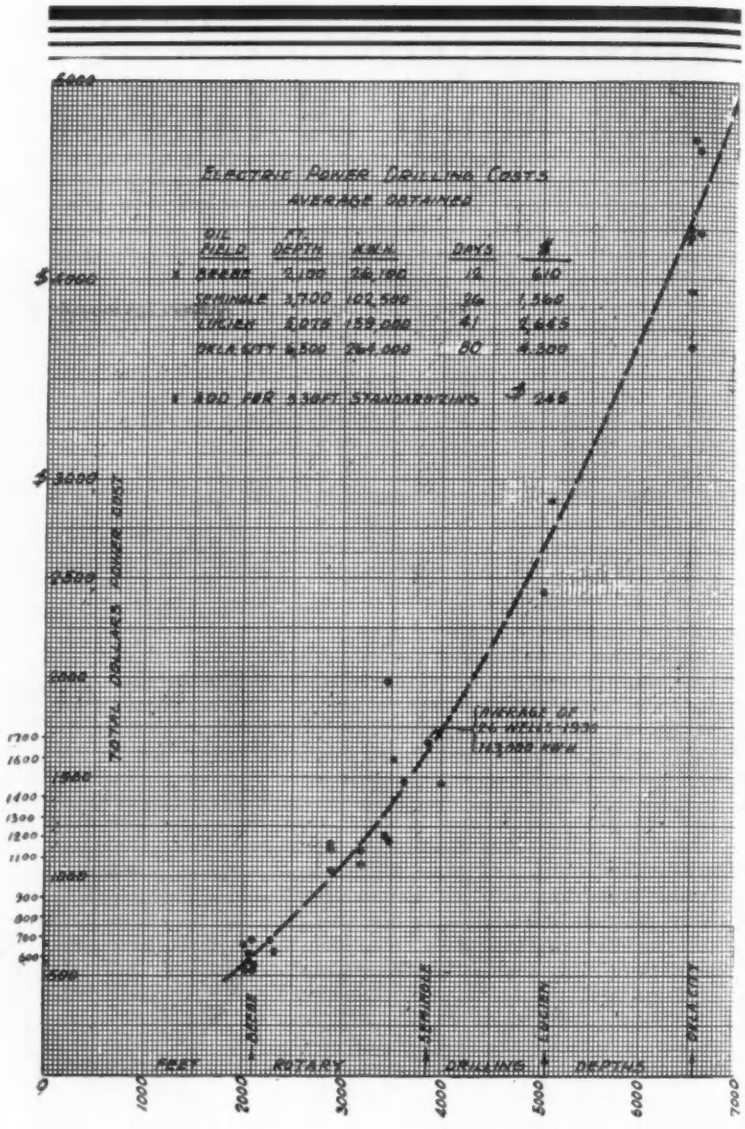
You get virgin steel on every run with this bit. The blade is run, then destroyed. And these blades are hanging up new records regularly . . . . from Conroe to the Mexican Border.

State Bit Co.

THE "NEW RECOVERY" BIT

HOUSTON REFUGIO

....HOW ABOUT YOUR DRILLING COSTS?



Compare your present cost of fuel, water, and auxiliary supplies of your drilling operations, with the average cost shown herewith for purchased electric power in the several Oklahoma fields.

Purchased electric power is available in whatever quantities you may need, but you only pay for what you use during actual drilling time.

Many successful operators are turning to this dependable source of power because it is cheaper. It eliminates the need for a huge water supply and other perplexing and expensive fuel problems.

While you are in Houston be sure to visit the . . . . .

Petroleum Electric Power Club Exhibit!

OKLAHOMA GAS AND ELECTRIC COMPANY

Commercial Department

OKLAHOMA CITY, OKLAHOMA

MARKETS — STATISTICS

General market situation changes for the better with unexpected increase in demand. Production goes above allocation.

Market Improves With Strict Control in East Texas Field

THE market for petroleum products continued on the upgrade during the past week, improving upon the advances which had been made in the previous week. In the Mid-Continent, gasoline prices established "highs" for the year, and other products were in strong demand; and even on the Pacific Coast, where "hot" oil, a long retail gasoline price war, complications over the petroleum code, and other disturbances have kept the markets in demoralized condition for considerable time, there was evidence of firming markets and hope that the price war would soon end.

The pronounced strength of the Mid-Continent market was attributed largely to sharp curtailment of available supplies of under-priced East Texas gasoline through shut-downs of numerous refineries in the district in connection with the drive against "hot" oil production and refining under the new Texas refinery control law.

Agents of the railroad commission and the attorney general's department obtained numerous injunctions in state courts restraining refineries from violations of the new law, which obligates the plant owners to furnish the commission with reports and records of the source of their crude and the disposition of their products. And in consequence of those injunctions and threats of additional injunctions about 25 of the East Texas plants, out of a total of around 70, were reported closed down at the middle of the past week. Many of those plants which ceased operation were alleged to have been using "hot" crude, available at sub-posted prices, as their chief raw material, and to have been largely responsible for holding the wholesale gasoline prices down.

About 20,000 barrels of "hot" oil production daily was estimated to have been curtailed in consequence of the shut-downs of those plants. The state agents were attacking "hot" oil traffic from other angles, also, in the meantime; and they were joined in their efforts by federal agents, who have been re-empowered to participate in the "hot" oil fight in consequence of the action of a federal appeals court at New Orleans, in staying injunctions against the agents granted in February by Federal District Judge Randolph Bryant in the Panama-Amazon oil code case. Late last week it was estimated that East Texas "hot" oil output had been reduced to 20,000 to 30,000 barrels daily, compared with about 75,000 barrels only a little over two weeks ago.

In the East Texas district the gasoline market improved about a half-cent a gallon for all grades during the past week, making the minimum tank car price for third grade gasoline, chief product of the district, 3¾ cents a gallon, compared with prices around 3 cents which had been in effect for weeks prior to the "hot" oil drive. The upper Mid-Continent market experienced a proportionate improvement with the quotations on third grade rising to a range of 3⅞ to 4⅛ cents, the better grades of gasoline improving similarly, and practically all other refined products also showing marked strength.

THE OIL WEEKLY

Estimated Average Daily Production of Crude Oil, Barrels.

District or State	Week Ending April 14	Week Ending April 7
TEXAS—		
Texas Panhandle	54,150	56,425
North and West Central Texas	90,675	88,930
West Texas	134,025	133,975
East Central Texas	44,000	43,850
East Texas Field	440,000	438,000
South Texas	49,000	49,300
Texas Gulf Coast	162,000	161,000
Total Texas	973,850	971,480
OKLAHOMA—		
Oklahoma City	189,550	166,000
Seminole Area	130,400	99,450
Tatums	7,800	6,920
Lucien	10,450	6,690
Others	184,350	181,295
Total Oklahoma	522,550	460,355
KANSAS—		
Ritz Canton	14,935	12,825
Voshell	7,115	6,950
Nikkel-Hollow	17,975	17,065
Sedgwick	7,920	6,775
Others	83,605	79,815
Total Kansas	131,550	123,430
LOUISIANA—		
North Louisiana	27,000	27,875
Louisiana Gulf Coast	46,000	45,700
Total Louisiana	73,000	73,575
ARKANSAS	31,000	30,525
CALIFORNIA—		
Long Beach	65,500	62,500
Santa Fe Springs	43,500	43,000
Huntington Beach	40,500	36,500
Dominguez	21,200	19,000
Inglewood	9,000	9,700
Ventura Avenue	27,000	30,000
Seal Beach	9,400	8,500
Midway-Sunset	55,000	55,800
Elwood	9,000	10,500
Kettleman Hills	57,000	51,000
Playa del Rey	10,000	9,800
Others	142,900	136,700
Total California	490,000	473,000
MOUNTAIN STATES—		
Wyoming	30,000	30,500
Montana	7,100	7,100
Colorado	2,500	2,700
Total Rocky Mountain States	39,600	40,300
NEW MEXICO	45,000	42,200
EASTERN STATES	98,000	98,000
MICHIGAN	27,000	28,000
Total United States	2,431,550	2,340,865

United States Production Rises Above Allowable

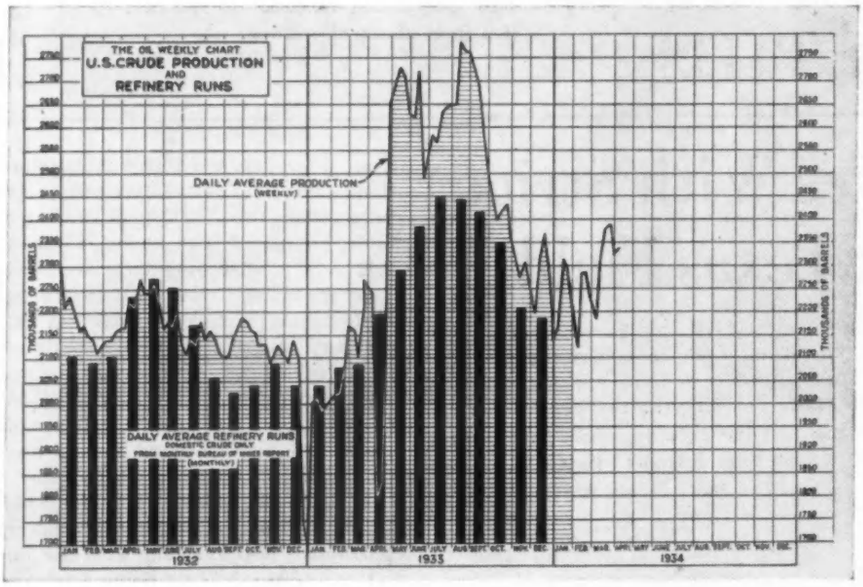
UNITED STATES crude oil production for the week ending April 14 was about 65,000 barrels per day higher than the increased allowable which went into effect April 1, averaging 2,431,550 barrels daily. That figure compared with an allowable of 2,366,200 barrels per day.

In partial justification for the excess, the previous week's production had been about 25,000 barrels per day under the new allowable.

For the rise of 90,000 barrels in daily output for the week of April 14 as compared with the previous week, California, Oklahoma, and Kansas were largely responsible. Texas continued below its quota.

California had been above its allowable in the week of April 7, and instead of reducing output the past week it showed a substantial increase, rising to 490,000 barrels daily average, compared with an allowable of 462,500 barrels in the federal government allocations.

Oklahoma's excess above its quota was partially excused, on the other hand, by underproduction the previous week. For the week of April 14 it averaged 522,550 barrels daily, compared with an allowable of 476,400 barrels per day; but in the previous week it had averaged only 460,355 barrels



daily. Lucien was listed along with Oklahoma City field and the Seminole area in showing higher production for the new week.

Although it had been virtually within its 122,100-barrel quota in the week of April 7, Kansas rose for the past week to daily output of 131,550 barrels.

Under the April 1 schedule of allocations Texas is assigned an allowable of 980,700 barrels daily. The state averaged 973,850 barrels per day in the week of April 14, up about 2500 barrels from the previous week. The state's output is due to increase gradually, with completion of new wells in the East Texas field, on account of the proration system used in that area.

The above production figures do not take account of crude which may have been surreptitiously produced. Some "hot" oil is still being produced in California, and a greater volume in Texas. But the past several weeks have brought notable reductions in "hot" oil output in both states.

East Texas, scene of the greater portion of the nation's "hot" oil, was credited late last week with only about 20,000 to 30,000 barrels of "hot" oil prdouction daily, whereas it had been reported as furnishing around 75,000 barrels daily as recently as about three weeks ago. The reduced volume of East Texas "hot" oil has resulted from reinstatement of federal agents in the field and more effective results by agents of the Texas Railroad Commission and the attorney general following enactment of a new state refinery control law.

How Production Compares with Federal Allocation

	Allocation April	Week Ending April 14[1] Daily Average		4 Weeks, April 7[2] Daily Average	
Arkansas	32,300	31,000	−1,300	30,950	.....
California	462.500	490,000	+27,500	476.000	.....
Kansas	122,100	131,550	+9,450	124.500	.....
Louisiana	72,400	73 000	+600	72,950	.....
Texas	980,700	973,000	−7,700	962.050	.....
Oklahoma	476,400	522,000	+45,600	483,050	.....
New Mexico	45,800	45,000	−800	42 800	.....
Rocky Mountain	43,100	39,600	−3,500	39,850	.....
Appalachian States	99,600	98,000	−1,600	98,650	.....
Michigan	31,300	27,000	−4,300	26,800	.....
United States	2,366.200	2,431,550	+65,350	2,357 600	—8,600
Imports crude and fuel oil				110,290	
Crude to Stills[3]				2,239,000	

[1]Oil Weekly estimate for current week. [2]A.P.I. estimate.

Mid-Continent Has Best Market Week of the Year

BRISKLY increased seasonal demand and diminished offerings due largely to the shutting in of a large number of East Texas refineries, combined to make the past week the strongest that the Mid-Continent refined market has experienced during 1934. Prices offered for the low octane U. S. motor fuels were from a quarter to a half cent higher and for natural gasoline from one-half to three-quarters of a cent higher than during the preceding week. Open market buying of the middle and high octane motor fuels also showed a remarkable increase, especially among jobbers doing business in the northern Mississippi Valley area. Increased demand for all grades of kerosene took prices to the highest point of the year and buying orders continued to come in from all directions, creating a demand considerably in excess of the available supply.

Distillates and furnace oils held ground and tended toward higher prices even in the face of warmer weather. This was explained as being due to shortage of supply coupled with changeable weather throughout the large consuming areas. Bright stocks, steam refined cylinder stocks and the paraffin waxes were reported unchanged while the neutral oils were scarce and tending toward better prices in the immediate future. Although price increases had not been made in the zero gas oil market, buyers seemed willing to pay from a quarter to a half-cent per gallon over previous levels and price schedules undoubtedly will be pegged at that point.

Immediate response of the market to better conditions in the East Texas area is gratifying to the market observers who have held for months that nothing was wrong with the refined market except the large amounts of material entering the Mid-Continent

Crude Runs to Stills; Finished and Unfinished Gasoline and Gas and Fuel Oil Stocks; and Cracked Gasoline Production, Week Ended April 7, 1934

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(a) Stocks of Unfinished Gasoline	(b) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Terms., in Trans. & Pipe Lines	Total at Refys., Terms., etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	582	582	100.0	430	73.9	7,147	10,437	17,584	1,485	210	5,361	496	471	95.0	69
Appalachian	150	139	92.7	92	66.2	1,356	463	1,819	396	112	751	69	69	100.0	23
Ind., Ill., Ky	446	422	94.6	291	69.0	7,002	2,643	9,645	1,266	58	2,862	325	308	94.7	87
Okla., Kans., Mo	461	386	83.7	201	52.1	3,751	2,010	5,761	999	589	2,768	256	234	91.5	43
Inland Texas	351	167	47.6	68	40.7	1,182	120	1,302	296	272	1,625	82	66	80.2	19
Texas Gulf	542	528	97.4	415	78.6	4,993	147	5,140	2,989	288	4,298	358	349	97.3	92
Louisiana Gulf	168	162	96.4	116	71.6	919	601	1,520	247	.....	1,168	71	71	100.0	22
North La.,—Ark.	92	77	83.7	42	54.5	259	58	317	51	33	490	41	38	92.8	8
Rocky Mountain	96	64	66.7	36	56.2	1,488	.....	1,488	169	42	665	46	42	92.8	8
California	848	822	96.9	405	49.3	10,971	2,036	13,007	925	2,516	83,350	209	209	100.0	53
TOTALS WEEK: April 7, 1934	3,736	3,349	89.6	2,096	62.6	39,068	18,515	57,583	8,823	4,120	103,338	1,953	1,857	95.1	429
March 31, 1934	3,736	3,349	89.6	2,103	62.8	(c)39,273	18,614	57,887	(c)9,250	4,090	104,821	1,953	1,857	95.1	425

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week April 7, 1934, compared with April 1933 Bureau figures.

Estimate B. of M. Basis April 7, 1934	2,245		480
Estimate B. of M. Basis March 31, 1934	2,250		475
U. S. B. of M. March 1933: Daily Average Crude Runs	2,294	U. S. B. ofM. March, 1933: Daily Average Cracked Prod.	475

(a) Amount of unfinished gasoline contained in naphtha distillates.
(b) Estimated. Includes unblended Natural Gasoline at refineries and plants ;also blended Motor Fuel at plants.
(c) Revised in California, due to transfers from Unfinished to Finished Gasoline. Stocks as of March 24, comparable with above are: Finished—39,358,000; Unfinished—9,453,000.

area at concession prices. This consisted largely of low octane motor fuel, kerosene and gas oils. The better grades of motor fuel, although under much better control, suffered sympathetically and efforts to brace the market generally have met with failure as illegal production in the East Texas area continued to reach the market at low prices.

Ruling prices in the Mid-Continent area, basis Group 3, Oklahoma, excluding one cent federal tax, are approximately as follows:

Refinery Gasolines: Low octane or third grade, 59 or under octane rating U. S. Motor gasoline 3⅞ to 4 cents; middle octane, 60 to 64 octane rating, 4½ to 4¾ cents a gallon; high octane, 65 and above octane rating, 4¾ to 5 cents; 60/62 gravity, 400 ep., low octane 4 to 4⅛ cents; 64/66 390 ep., 4⅛ to 4¼ cents; 64/66, 375 ep., 4¼ to 4⅜ cents.

Natural Gasolines: The stabilized 11/14 pound vapor pressure grade, 3½ to 3⅝ cents; 16/18 pound vapor, 2½ to 2⅝ cents; 18/22 pound vapor, 2¼ to 2⅜ cents; 26/70 grades, 1⅝ to 1¾ cents.

Kerosenes: The 41/43 gravity, waterwhite, doctor, 3⅝ to 3¾ cents 42/44 gravity, waterwhite, doctor, 3¾ to 3⅞ cents a gallon; 44/46 gravity, incubator grades, 4 to 4⅛ cents.

Distillates: Primewhite, 38/40 gravity, zero, 175 flash, 600 ep., 2⅞ to 3 cents a gallon; 38/40 gravity, primewhite, zero to 10, 650 ep., 2½ to 2⅝ cents; 38/40 gravity, light straw, zero to 10, 700 ep., 2⅜ to 2½ cents.

Gas Oils: Light straw, zero, 34/36 gravity, 2½ to 2⅝ cents; 32/36 gravity, dark, zero, 2¼ to 2⅜ cents; 32/36 gravity, straw, 60 cold test 2⅛ to 2¼ cents 32/36 gravity, under 50 cold test, 2 to 2⅛ cent.

Fuel Oils: High cold test; 18/22 gravity, industrial grades, 50 to 60 cents a barrel; 22/26 gravity, under 60 cold test; 67½ to 70 cents; 24/26 gravity, 70-80 cold test; 65 to 67½ cents; 28/30 gravity, zero, 90 to 95 cents.

Comparison of Permits Granted for New Wells

State—	Week ending April 14	Total this month	Total this year	Total this date last year	1933 year total
Arkansas	0	1	12	28	47
California	3	9	127	72	593
Louisiana	19	35	204	125	755
Kansas	13	27	247	157	682
Michigan	15	28	145	71	420
Oklahoma	50	121	606	266	1,315
Texas	217	411	2,567	1,606	7,845
Total	317	532	3,908	2,325	11,651

Expect Improvement In California Markets

THERE is no change in the petroleum market situation in California as of April 11, but an increase in gasoline retail prices is expected daily. Marketers, big and little, are in daily

Summary of Field Results During Past Week

State—	Completions	Oil wells	Gas wells	Failures	Init. Prod.
Arkansas	2	1	0	1	100
California	10	9	0	1	9,380
Kansas	15	8	0	7	2,551
Louisiana	10	7	1	2	5,275
Michigan	7	5	1	1	6,419
Mississippi	2	0	2	0	0
Montana	2	1	0	1	25
New Mexico	2	1	1	0	1,800
Ohio	18	2	9	7	90
Oklahoma	37	19	4	14	8,896
Pennsylvania	25	22	1	2	51
Texas	200	149	2	49	573,400
W. Virginia	19	4	11	4	21
Wyoming	2	0	2	0	0
Total	351	228	34	89	608,008

sessions, long drawn out, with practically no information being made public. Independent marketers have been pressing for an increase for the past 10 days, but some of the larger marketers are in no hurry to act.

It is expected some action will be taken as soon as the federal indictment hearings are concluded, or something known as to delay, if any. The general situation, without reference to gasoline prices, is best in months. Movement of crude oil in tank trucks is being checked out of Huntington Beach, and movement from other fields will be checked later. This is helping to reduce the output and sale of "hot oil."

The daily production of crude oil the first part of April is high and is closely approaching 500,000 barrels, but will decline later in the month so the month's production will be close to the allowable.

The market for fuel oils, etc., is still strong with prices tending higher.

Deadline Near on Offer to East Texas Refineries

Dallas, Texas.—Opportunity for East Texas independent refiners to draw on major pipe line companies in the field for crude supplies will be withdrawn on April 15 unless the plant owners act in the meantime. The special committee created by the majors to perfect a program that would preclude the necessity of independent refiners continuing to produce and purchase illicit production in order to operate their plants voted last week to set the dead line of acceptance, and word to this effect was announced by J. G. Pew, Sun Oil Company, chairman of the committee.

The East Texas refiners conducted negotiations last month through the Independent Refiners Association of East Texas, and on March 20 announced through Jules Constantin, president, that 25 days would be ample time for the matter to be settled.

The refiners were assured that the majors would make available up to five percent of their crude takings from the field, but the former would be required to pay the posted price and abide by all code and state laws.

Dallas, Texas.—More time has been allotted the Texas Railroad Commission and the attorney general, state agencies responsible for enforcement of proration rules in the East Texas field, to make good on a pledge given before a mass meeting of operators here on March 30 to eliminate excess production in the field by April 16. This meeting resulted in the state agencies being put on notice to get results, else step aside in favor of turning the field over to federal authorities for enforcement. Plans were to re-convene in Dallas on April 16 to carry out the threat or give praise to those responsible for results.

The Dallas mass meeting was sponsored by the local chamber of commerce and the East Texas Chamber of Commerce. Capt. J. F. Lucey, president of Lucey Petroleum Company and spokesman for the two civic bodies, has announced that the scheduled meeting will be held on April 24 at Texarkana, Texas, in connection with the annual convention of the East Texas Chamber of Commerce.

Postponement of the fateful meeting for the state agencies was deemed necessary, according to Capt. Lucey, to give the state adequate time to prosecute violators scheduled for court trial in the meantime.

Entertainment Arranged For Exposition Visitors

A lavish entertainment program has been planned for visitors to the Oil Equipment and Engineering Exposition to be held at Sam Houston Hall, Houston, Texas, April 16-21.

A stag banquet will be held April 20, at 7 p.m. at the Rice Hotel. Arrangements have been made to accommodate a minimum of 1000. A feature of the stag banquet will be a floor show by some of the best vaudeville and entertainers of the south, in addition to a first class orchestra.

NIC N. STEFANESCU

For those who wish to hear from some outstanding foreign oil men, there will be three such speakers at the "stag." These include V. N. Vannikoff, chief engineer of the Soviet Russian Government, who will talk on the oil situation in the U. S. S. R.; Nick Stefanescu, chief engineer of the I. R. D. P. Oil Company, who will explain the type of equipment used in the oil industry of Roumania, and Oscar P. Wegner, chief engineer of oil for the Argentine Government, which controls 95 percent of the industry in that country. Mr. Wegner will tell of the oil situation in Argentine and also address another luncheon slated especially for him and his two foreign colleagues. In addition to these speakers, prominent Houston oil men will address the gathering.

There will also be a dance during the exposition, probably at the Rice Hotel. Other features of entertainment include trips down the Ship Channel, along the banks of which are located several large refineries.

Considering Development Plan for Crescent Field

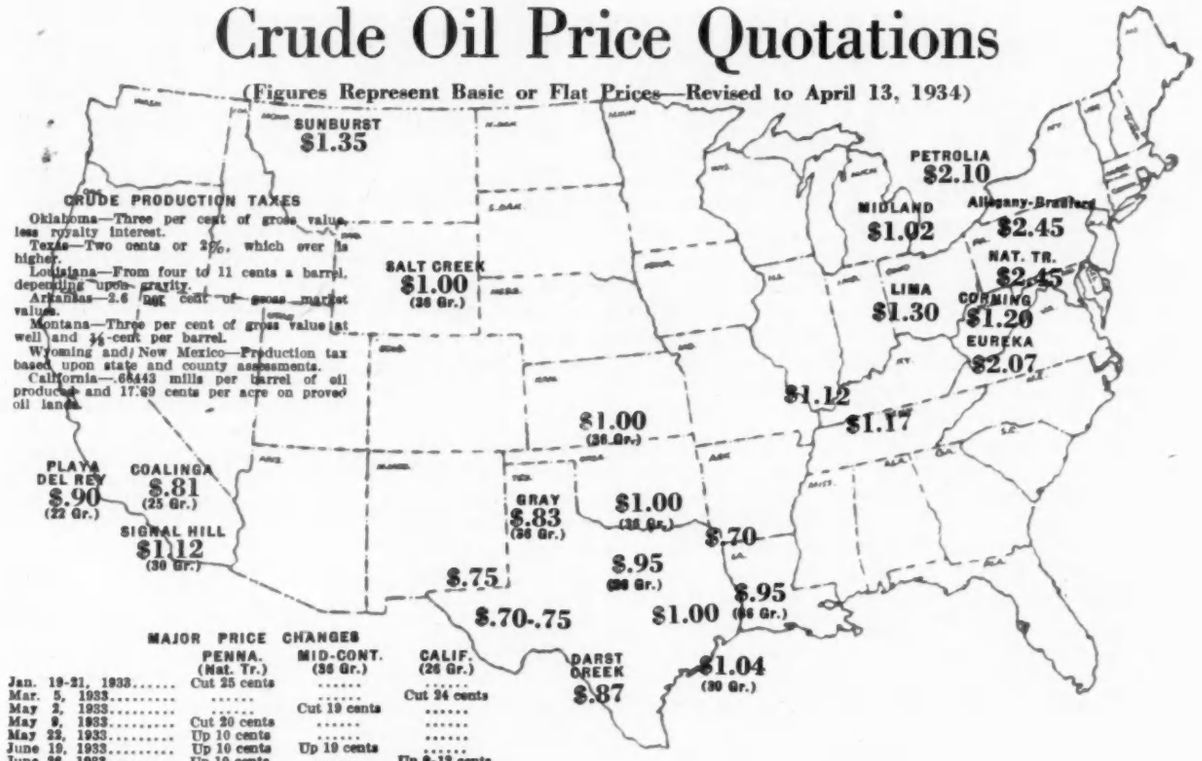
Washington, D. C.—Development of a program for conservation of the Crescent, Oklahoma, oil pool was discussed April 10 by officials of the Petroleum Administrative Board and representatives of a number of companies interested in the field.

Sponsored by The Texas Company, Magnolia Oil Company, Gypsy Oil Company and Carter Oil Company, a plan was laid before the board for development of the pool on the basis of one well in each 40 acres. This plan, it was said, conforms with the general conservation program of both the industry and the oil administration.

Opposition to the proposal was expressed by representatives of a number of companies, including Empire Oil & Refining Company, Mid-Continent Petroleum Corporation, Skelly Oil Company, Continental Oil Company, Sinclair Prairie Oil Company, Amerada Petroleum Corporation and Easton Oil Company.

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices—Revised to April 13, 1934)



CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.

Texas—Two cents or 2%, which ever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 per cent of gross market values.

Montana—Three per cent of gross value at well and ⅛-cent per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.68443 mills per barrel of oil produced and 17.69 cents per acre on proved oil lands.

MAJOR PRICE CHANGES

	PENNA. (Nat. Tr.)	MID-CONT. (36 Gr.)	CALIF. (26 Gr.)
Jan. 19-21, 1933	Cut 25 cents	.....	.....
Mar. 5, 1933	.....	.....	Cut 24 cents
May 2, 1933	.....	Cut 19 cents	.....
May 9, 1933	Cut 20 cents	.....	.....
May 22, 1933	Up 10 cents	.....	.....
June 19, 1933	Up 10 cents	Up 19 cents	.....
June 26, 1933	Up 10 cents	.....	Up 9-13 cents
July 6, 1933	Up 13 cents	Up 10 cents	.....
July 17, 1933	Up 15 cents	.....	.....
July 28, 1933	Up 15 cents	.....	.....
Aug. 11, 1933	Up 10 cents	.....	.....
Aug. 24, 1933	.....	Up 10 cents	.....
Aug. 30, 1933	Up 15 cents	.....	.....
Sept. 6, 1933	Up 10 cents	Up 10 cents	Up 15 cents
Sept. 8, 1933	.....	Up 15 cents	.....

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$ .84	2¢	40—$1.08	9-29-33
N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
Texas Panhandle				
Gray County	34— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Estes, Pecos, Wk'lr, Crane, Upton, Howard and Glasscock	*.75			9-29-33
	*.70			9-29-33
East Texas	*1.00			9-29-33
Texas Gulf Coast				
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-29-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 20— .82	2¢	34— 1.12	9-29-33
South and SW Texas	Below			
Refugio (Light)	20— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	*.85			9-29-33
Saxet	*.85			9-29-33
Mirando	*.80			9-29-33
Pettus	*1.05			9-29-33
Salt Flat	*.87			9-29-33
Darst Creek	*.87			9-29-33
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	40— 1.03	3-17-34
El Dorado East Field and Smackover	*.70			9-29-33
North Louisiana	29— .79	2¢	40— 1.03	9-29-33
Urania	*.85-*.87			1- 1-34
outh Louisiana	Below			
Lockport	20— .80	2¢	34— 1.10	9-29-33
Iowa, Cameron Mds.	Below 20— .70	2¢	34— 1.00	9-29-33
Rocky Mountain States				
Salt Creek	29— .84	2¢	40— 1.08	9-29-33

*All gravities—flat rate.
†Gulf Coast prices as posted by Humble Oil & Refining Company

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Elk Basin	$*1.17			9-29-33
Grass Creek (Light)	*1.17			9 29-33
Big Muddy	*1.01			9-29-33
Rock Creek	*1.02			9-29-33
Sunburst	*1.35			9-29-33
Lance Creek	*1.02			8-25-33
Osage	*.62			8-25-33
Cat Creek	*.45			8-25-33
Pondera	*.65			8-25-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.30			9-29-33
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.17			9-29-33
California				
Signal Hill	14— .65	1¢	16—$ .66	9- 6-33
	17— .69	3¢	22— .84	9- 6-33
	23— .88	3¢	30— 1.09	9- 6-33
Sea B., Alamitos Hts.	19— .65	3¢	20— .68	9- 6-33
	21— .72	4¢	22— .76	9- 6-33
	23— .81	4¢	26— .93	9- 6-33
	27— .98	4¢	30— 1.10	9- 6-33
Huntington Beach	14— .65	4¢	15— .69	9- 6-33
	16— .72	3¢	19— .81	9- 6-33
	20— .83	3¢	28— 1.07	9- 6-33
	29— 1.09	3¢	30— 1.12	9- 6-33
Inglewood	14— .65	4¢	16— .73	9- 6-33
	17— .76	4¢	18— .80	9- 6-33
	19— .83	4¢	20— .87	9- 6-33
	21— .90	4¢	22— .94	9- 6-33
	23— .97	4¢	24— 1.01	9- 6-33
Playa del Rey	14— .65	1¢	15— .66	9- 6-33
	16— .69	4¢	17— .73	9- 6-33
	18— .76	4¢	19— .80	9- 6-33
	20— .83	4¢	21— .87	9- 6-33
	22— .90	4¢	23— .94	9- 6-33
	24— .97	3¢	25— 1.00	9- 6-33
			26— 1.04	9- 6-33
Olinda-Brea Canyon	14— .65	4¢	16— .73	9- 6-33
	17— .76	3¢	28— 1.10	9- 6-32
Athens-Rosecran Domingues	23— .83	3¢	24— .86	9- 6-33
	25— .90	4¢	26— .94	9- 6-33
	27— .97	3¢	29— 1.04	9- 6-33
	30— 1.08	4¢	31— 1.12	9- 6-33
			32— 1.15	9- 6-33
Elwood (fob ship.)	3— 1.03	3¢	37— 1.15	9- 6-33
Torrance	1'— .65	1¢	15— .66	9- 6-33
	16— .69	3¢	20— .81	9- 6-33
	21— .83	3¢	26— .98	9- 6-33

*All gravities—flat rate.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Richfield	15—$ .65	2¢	16—$ .67	9- 6-33
	17— .70	4¢	20— .82	9- 6-33
	21— .85	4¢	22— .89	9- 6-33
	22— .93	4¢	24— .97	9- 6-33
	25— 1.00	4¢	27— 1.08	9- 6-33
	28— 1.11	4¢	29— 1.15	9- 6-33
Whittier-LaHabra	15— .65	3¢	18— .74	9- 6-33
	19— .78	3¢	24— .93	9- 6-33
Montebello	19— .65	1¢	20— .66	9- 6-33
	21— .69	3¢	22— .72	9- 6-33
	23— .76	4¢	24— .80	9- 6-33
	25— .85	4¢	26— .89	9- 6-33
Coyote Hills	16— .65	3¢	19— .74	9- 6-33
	20— .78	3¢	29— 1.05	9- 6-33
	30— 1.09	3¢	34— 1.21	9- 6-33
Santa Fe Springs	21— .72	4¢	22— .76	9- 6-33
	23— .79	4¢	25— .87	9- 6-33
	26— .90	4¢	28— .98	9- 6-33
	29— 1.01	4¢	30— 1.05	9- 6-33
	31— 1.08	4¢	33— 1.16	9- 6-33
	34— 1.19	4¢	35— 1.23	9- 6-33
	36— 1.26	4¢	38— 1.34	9- 6-33
New Hall, McKittrick, Kern River	14— .57		19— .57	9- 6-33
Midway, Sunset, Elk Hills, Buena Vista Hills	17— .57	4¢	18— .61	9- 6-33
	19— .64	3¢	22— .73	9- 6-33
	23— .77	4¢	33— 1.17	9- 6-33
Lost Hills	17— .57	4¢	21— .73	9- 6-33
	22— .76	3¢	30— 1.00	9- 6-33
Coalinga	17— .57	1¢	18— .58	9- 6-33
	19— .62	3¢	21— .68	9- 6-33
	22— .72	3¢	25— .81	9- 6-33
Wheeler Ridge	17— .57	1¢	18— .58	9- 6-33
	19— .61	3¢	25— .79	9- 6-33
Kettleman Hills	33— .93	3¢	39— 1.11	9- 3-33
Pennsylvania				
Bradford	*2.45			10- 4-33
Sw Pa. Pipe Line	*2.12			10- 4-33
Eureka Pipe Line	*2.07			10- 4-33
Buckeye Pipe Line	*1.97			1-29-34
Corning Grade	*1.20			9-11-33
Michigan				
Central Michigan	*1.02			9-30-33
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

*All gravities—flat rate.

MEN IN THE INDUSTRY'S NEWS

JOHN VAN DALL, for several years geologist in the Oklahoma City district for Sinclair Prairie Oil Company and previously in the United States Bureau of Mines, has resigned to become district geologist for Magnolia Petroleum Company with headquarters at Oklahoma City.

J. E. MORERO, geologist in the Houston district of Skelly Oil Company, is being transferred to Tulsa where he will become chief geologist. Morero is a graduate of Leland Stanford University and has been with the Skelly organization since 1926 when he started work as a geological scout.

LEW SHROYER is now associated with Gus Coromier's C. R. & G. Drilling Company in Houston. Mr. Shroyer first started in the oil business in Ohio, from where he went to Europe as an independent exporter of oil. Later he returned to the United States and was interested in several Oklahoma wildcats.

PAUL FITZGERALD, geologist for Dowell, Inc., has left Mt. Pleasant, Michigan, for a three weeks survey of possibilities of acid treating of wells in the Turner Valley field of Alberta, Canada.

GRANT SPANGLER, formerly associated with the late Dr. A. F. Melcher in consulting geological work, has been added to the geophysical scouting department of Stanolind Oil & Gas Company and will make headquarters at Enid, Oklahoma. A. A. Holston, formerly geophysical scout in that district remains as geological scout.

A. W. MICHNER, assistant superintendent, Michigan Pure Oil Pipe Line Company, has been transferred to Willmington, North Carolina.

D. J. MORAN, president of Continental Oil Company, was a visitor to San Antonio last week. He was accompanied by other high officials of the company.

RAY M. COLLINS, agent for code committees in the Mid-Continent area, and Howard Whitehill, chairman of the Stripper Well Owners Committee, left for Washington during the week to participate in a general labor conference.

ROY H. HALL, consulting geologist of Wichita, Kansas, spent the latter part of the week in Tulsa in conference with various oil companies.

G. D. THOMAS, division geologist at Shreveport, Louisiana, for Shell Petroleum Corporation, was called to Denver, Colorado, recently by the death of his mother.

H. D. EASTON, Shreveport geologist, is making headquarters at Amory, Mississippi, for a short time, doing field work In Northeast Mississippi and Northwest Alabama.

H. R. SMITH and J. E. Mowinkle, independent operators of Luling and San Antonio, are building one of the most elaborate ranch houses ever constructed in South Texas. It is typical Spanish and has a frontage of 250 feet with a depth of 30 feet. It is to be known as Hacienda de la Tordia and is near Campbellton on the big Smith-Mowinkle ranch.

J. WARREN MacCLATCHIE, MacClatchie Manufacturing Company of Compton, California, departed for Houston, Texas, April 12, where he will attend the Oil Equipment and Engineering Exposition. He will also attend the Tulsa Exposition before returning home, and will tour Mid-Continent fields between the two expositions.

SIDNEY A. JUDSON of Texas Gulf Production Company, Houston, read a paper before the April meeting of the Shreveport Geological Society entitled "Segmentation of Flank Sands of Salt Domes by Radial Faulting."

S. F. SHAW, consulting engineer for Loma Oil Company, San Antonio, is spending a few days in East Texas field inspecting air-lift installations.

CLINT MURCHISON of Dallas, Texas, was in Houston during the past week checking over some of his Texas Gulf Coast properties.

KENNETH R. TEIS, formerly Kansas production engineer for Phillips Petroleum Company, has joined Parkersburg Rig & Reel Company in the capacity of sales engineer for Oklahoma and Kansas. Mr. Teis will have his headquarters in Tulsa.

J. S. BECK, field and sales manager, Drill Pipe & Casing Cutter Company, Los Angeles, and former owner of Beck Oil Tool Company, left California April 12 for Texas to attend the Houston Exposition. Following the Exposition he will visit several Texas fields.

W. W. ORCUTT, vice president for Union Oil Company, with headquarters in Los Angeles, lost his left arm just below the shoulder in an automobile accident late in the afternoon of April 3. He was hurrying to the bedside of his mother, who was near death. Mr. Orcutt is 65 years of age, but is recovering nicely from his injury.

N. W. HUNTER, Houston operator, is erecting a magnificent ranch home and racing stables on his hill country ranch, 30 miles west of Kerrville. The ranch consists of approximately 30,000 acres. Mr. Hunter owns a fine string of fast race horses.

DR. J. E. BRISTOW, retired independent operator, has moved to San Antonio. He will be remembered as the oil man who was held by Mexican bandits for ransom in the mountains of Mexico for 30 days in the spring of 1930.

W. HUNTER ATHA, JR., manager of Mt. Pleasant Atha Supply Company, returned to Mt. Pleasant last week after a three weeks sojourn in St. Petersburg, Florida.

G. B. SHEA and H. C. Miller, engineers with the San Francisco branch of the Bureau of Mines, have just completed a tour of most of the fields in California.

WILLARD MILLER, chief geologist for Ramsey Petroleum Corporation, is convalescing in an Oklahoma City hospital after an appendectomy.

E. R. FILLEY, manager of the Kansas-Oklahoma-Kentucky division of The Texas Company, has returned to Tulsa, after attending the annual conference of the company's production committee in New York.

LOU M. TIDD, mechanical engineering department of Shell Petroleum Corporation and formerly with Continental Supply Company, has been transferred to the scouting department and will cover the Oklahoma City district.

GEORGE ELLIS OLLER, field manager for Parkersburg Rig & Reel Company, has been transferred to the Southwest. The transfer will be made the last of the month.

WILLIAM S. BRYANT, formerly sales manager for Insulating Products Company of Aurora, Ill., is now associated with Doster, Dressel and Bryant, 2400 West Madison street, Chicago.

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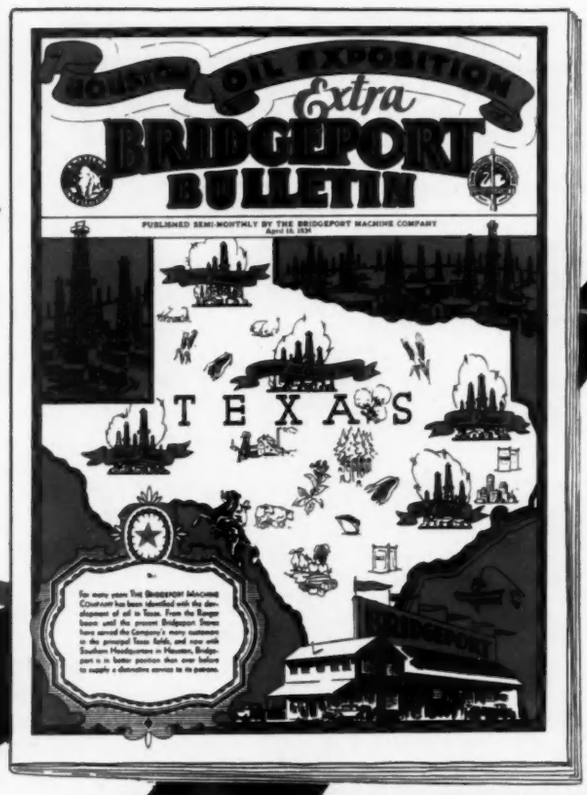
OIL EQUIPMENT AND ENGINEERING EXPOSITION



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ASTONISHING STRENGTH IN NEW WRENCH HANDLE OF SUPER-X ALLOY METAL

Hook and Heel Jaws Have Always Been Chrome Molybdenum Nickel Steel.

Picture shows scientific test of RIDGID 24" stock wrench. Load of 6500 to 7000 lbs. applied 9½" from jaw. Wrench entirely undamaged by test. Complete details of test on request.

THE RIDGID handle and housing are no longer made of malleable iron. We have developed a new metal called Super-X—neither malleable nor steel—but with the advantages of both. It more than doubles the strength of the old RIDGID Wrench.

The new RIDGID All-Alloy Pipe Wrench is still unique in strength and in use-satisfaction. For instance, in 24" size, handle and housing of Super-X metal holds a load of more than 33-inch tons 9½" from the jaws. No pipe on the handle can carry enough men to equal half of that. Replaceable hook and heel jaws have always been made of chrome molybdenum nickel steel. Add all the other RIDGID advantages to this tremendous strength and you have a pipe wrench unequaled anywhere at any price. See the new RIDGID at your Supply Store.

RIDGID still has the guaranteed housing. You simply cannot warp or break it. The adjusting nut spins freely in its open socket, in every size, 6" to 60". You can't lock it on a pipe. Instant grip, instant let-go. For safety, long life, freedom from repairs and pleasure in using it, RIDGID is unequalled. Try it and see for yourself.

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PIPE WRENCHES, CUTTERS, VISES, THREADERS

Engineering Code on

Fort Worth.—The Spring Meeting of the Southwestern District of the American Petroleum Institute Division of Production, which will be held here April 20 and 21, will be one of the most important in its history. An unusually interesting and timely list of topics are scheduled for consideration, among which will be full discussion of the petroleum code and its application of the industry.

The Friday afternoon session will be given over to a symposium on the operation of the code. It will be engaged in by members of the Texas Production Committee of the Regional Planning and Coordination Committee. These topics are listed for the chairmen of sub-committees: "General Function and Purpose," L. E. Barrows, The Texas Company; "Allocation Committee," Jack Pew, Sun Oil Company; "New Pools Committee," F. C. Sealey, The Texas Company; "Stripper Wells Definition Committee," P. B. Flynn, Reno Oil Company; "Drilling Practice Committee," J. H. Russell, Gulf Production Company; "Enforcement Committee," R. L. Wheelock, president, Texas Petroleum Council.

Because of the part the code is playing in the life of the industry today, it is anticipated that a large gathering will be on hand to listen and take part in this open discussion, in which oil operators will have an opportunity of exchanging ideas on how to apply it to their business as well

JOHN R. SUMAN

Problems and A.P.I. Program

as discussing the various code factors that are as yet not settled definitely.

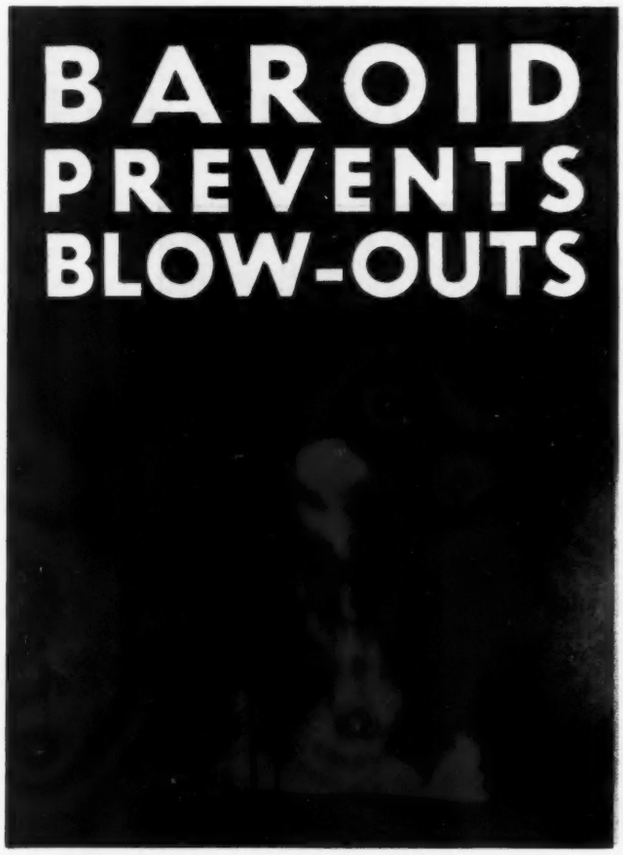
Problems of oil field engineering, vocational training and accident prevention are other topics that are scheduled for consideration.

At the opening session George H. Fern, director of industrial education for Texas, will discuss the facilities for vocational education available under the Federal Smith-Hughes Act, and report on the progress made in forming classes and developing courses of study. Vocational training is an important new practice that is gaining impetus rapidly. Already, a large number of companies have taken advantage of assistance offered by this act and are conducting classes for their men. The part of this program that is devoted to the problem of developing courses of study will be exceptionally interesting.

An unusual feature of the Friday morning session will be an informal recital by John R. Suman, Humble Oil & Refining Company, on the circumstances attending the killing of the celebrated cratered well at Conroe a few months ago. This is one of the great engineering feats accomplished in the drilling division of the industry and one that has opened up a practically new technique—that of drilling purposely deviated holes. Already this practice is being applied to many different conditions in various fields. Recently a well at Conroe that failed to obtain production was plugged back and drilled to a location 4½

W. R. BOYD

BAROID PREVENTS BLOW-OUTS



WEIGHT your mud with BAROID when drilling through gas-bearing formations, to prevent danger from blow-outs and fires.

BAROID enables the preparation of pumpable muds weighing as much as 140 to 150 pounds per cubic foot, and provides an adequate factor of safety to keep your well under control at all times.

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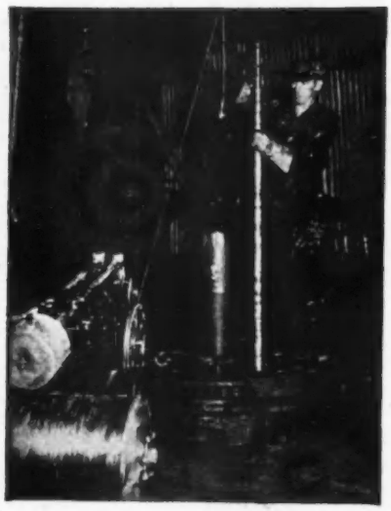
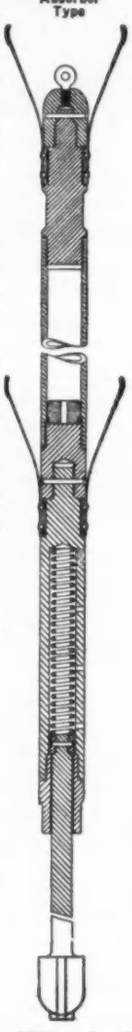


Sectional view of SYFO Clinograph

Cross Section view of "Go-Devil" Spring Shock Absorber Type



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SYFO CLINOGRAPH

JACK PEW

degrees north with the result that it found oil, another similar project is underway at Pierce Junction.

J. M. Cooper and T. W. Rhoads of Gulf Production Company, will present a joint paper on recent developments in production equipment and methods involving such topics as slow speed pumping, insert pumps, plunger pumps, high temperature in acid treatment of wells, use of vacuum bailer in cleaning wells, and improvements in standard rig construction. There have been many advancements in production equipment and methods within the past year and this paper is expected to bring forth much information of great value.

These papers are scheduled for the final session Satur-

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day morning: "Practical Application of Accident Prevention," C. L. Hightower, Texas Pacific Coal & Oil Company; "Use of Flush Joint Casing and Drill Pipe," Dr. W. V. Vietti, The Texas Company; "Pressure Completion of Wells in West Texas," E. V. Foran, consulting engineer; "Changes in Hydrostatic Pressure Caused by Movement of Drill Pipe," George E. Cannon, Humble Oil & Refining Company.

The Week's Picture in Oil

(*Continued from page* 9)

proposed new oil control law nearer in the foreground. The administrator, prompted by a federal district court decision against his control of crude production in East Texas, has had a proposed bill drawn up for some time, and is understood to be bent upon insisting that congress pass it, regardless of whether or not the Supreme Court upholds the code in the East Texas case, now on appeal in the high court and due for decision possibly before its adjournment about June 1. But Secretary Ickes has been waiting, it is said, to get the chief executive's opinion on the bill before pressing it, and in the meantime he has withheld information as to its provisions.

Protests Against Bill

Enough has been revealed as to the general outline and intent of the bill, however, to start a clamor of protest against it by both major and independent oil companies. As interpreted by a speaker at an important refiners' meeting from reports he had heard, the bill contemplates a public utility status for the oil industry under a board with powers similar to those of the Interstate Commerce Commission over railroads, and would impose serious handicaps on the industry while confronting the board with problems difficult or virtually impossible to solve satisfactorily.

Hot and bothered over the bill, representatives of six committees, agencies, and associations of independent operators in California met to discuss the bill, wired code authorities at Washington for a copy of its text, were informed three days later the administration was unwilling to release it until dis-

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IDECO Straight Line Crown Blocks distribute the load evenly and permit higher speeds. Straight line design assures perfect alignment with traveling block. No twisting of lines or side drag. Large 36" sheaves reduce bending stress in lines. Sheaves have A.P.I. machined grooves.

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IDECO Stream Lined Traveling Block is speedy and safe. Balanced design prevents overturning of block or fouling of lines. Each sheave mounted in heavy duty roller bearings and individually lubricated by Alemite. Sheaves and bearings are interchangeable with sheaves and bearings in crown blocks.

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IDECO Oilbath Rotary Swivels have a load capacity far beyond the most rigid requirements. All working parts operate in oil bath. Extra large fluid passage reduces back pressure. Perfect balance and ready accessibility make for ease of operation and safety.

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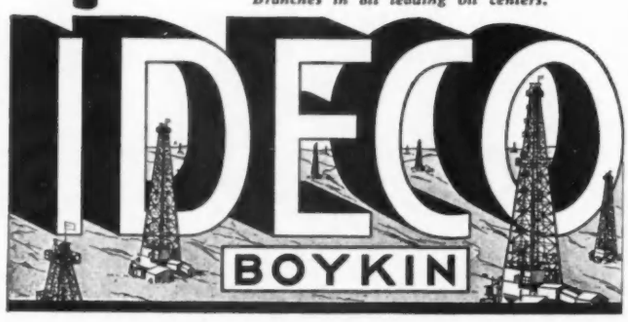

cussed with the President, reconvened, sent an air mail letter to Washington expressing surprise and apprehension at refusal of Ickes to disclose contents of the proposed statute, and agreed to watch vigilantly the oil administrator's proposed activities. A letter sent subsequently to all producers of California by the agency that had taken the initiative in the matter mentioned "the deep significance of this effort of the Oil Administrator, especially in view of the secrecy used," and concluded with this paragraph:

"It matters not so much what the Administration says it is doing, nor what it denies it is doing; but it is of grave concern to us in principle, what is being done. It may be that to save the industry from complete subservience to political masters, we should publicly and courageously declare the right of industry to govern itself under reasonable laws."

While various leaders in the industry girded themselves for combat and laid plans aimed at solidifying the ranks of the industry against the proposed legislation, others were disposed to believe the proposed legislation doesn't have a chance to go through the mill in the limited remaining time of this session of congress, even if it can muster enough support for passage.

Better Gasoline Market One Aim

Whatever may be the merits or demerits of the proposed federal legislation in its general scope, it must be conceded that one of its aims, stabilization of production, storage, and prices of gasoline, is an entirely desirable objective from the industry's standpoint. It must be further conceded that the industry has found itself unable to achieve that self same objective after months of effort under the NRA code program of self-government for the industry.

While refining and marketing stabilization negotiations have been in progress, the industry has piled surplus gasoline stocks higher and higher; and instead of becoming more stable, the gasoline situation has grown increasingly unstable, until today "heavy, heavy" hangs over the industry's head, with the supply of finished gasoline, exclusive of natural gasoline, around 54,000,000 barrels, whereas code authorities had hoped to enter July with only 46,000,000 barrels. The threat of that big supply has undoubtedly been an important factor in holding wholesale and retail gasoline prices down in the face of relatively strong crude prices, although underpriced gasoline from "hot" crude in East Texas and California has likewise been a depressing influence.

Improved Prices Are Against Bill

Developments of the past two weeks in the gasoline market may be used, in this connection, as argument against stronger federal law. Thus it may be reasoned that wholesale gasoline prices rose one half cent a gallon the past week, extending improvement that had gotten under way the previous week; this statement having particular reference to the Mid-Continent market. Yet the big gasoline inventory was still a reality, and the only logical explanation for the price gains was the remarkable tightening up on "hot" oil in East Texas that developed with inauguration of Texas' new refinery control law and reinstatement of federal agents as detectives of illegal East Texas crude production. And so, it may be argued, effective control of crude production, and not tampering with refinery and marketing operations, seems to offer the true and only solution to the problem of assuring profitable refined product prices; and such successful crude output control is finally near realization under the existing program furnished by the NRA code, the state governments, and the industry, obviating the need for proposed stricter federal oil law.

Tending to substantiate the theory, which has had a large following all along, that if crude production control is really effective, satisfactory prices will take care of themselves, the present rising gasoline market may, in fact, help to dissuade the oil administrator from pushing his contemplated bill, or at

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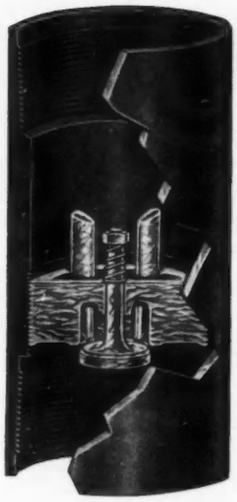
LARKIN STEEL PLUNGER SAND PUMP
with detachable bottom.

FOR TOUGH JOBS. Bit Bottom used for drilling and breaking the sand loose. HAS MORE SUCTION, will bring out more sand, and lift more steel from the bottom of the well, than any pump it ever competed against.



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Equipped with valve made entirely of Bakelite; positive acting, water-tight.

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The strength of the Larkin Bull Plugs and Swaged Nipples is evidenced in the results of hydraulic tests as follows:

2-inch	10,000 lbs.	4-inch	9,000 lbs.
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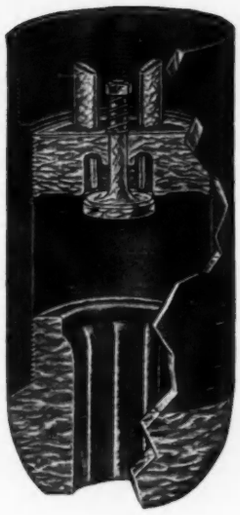

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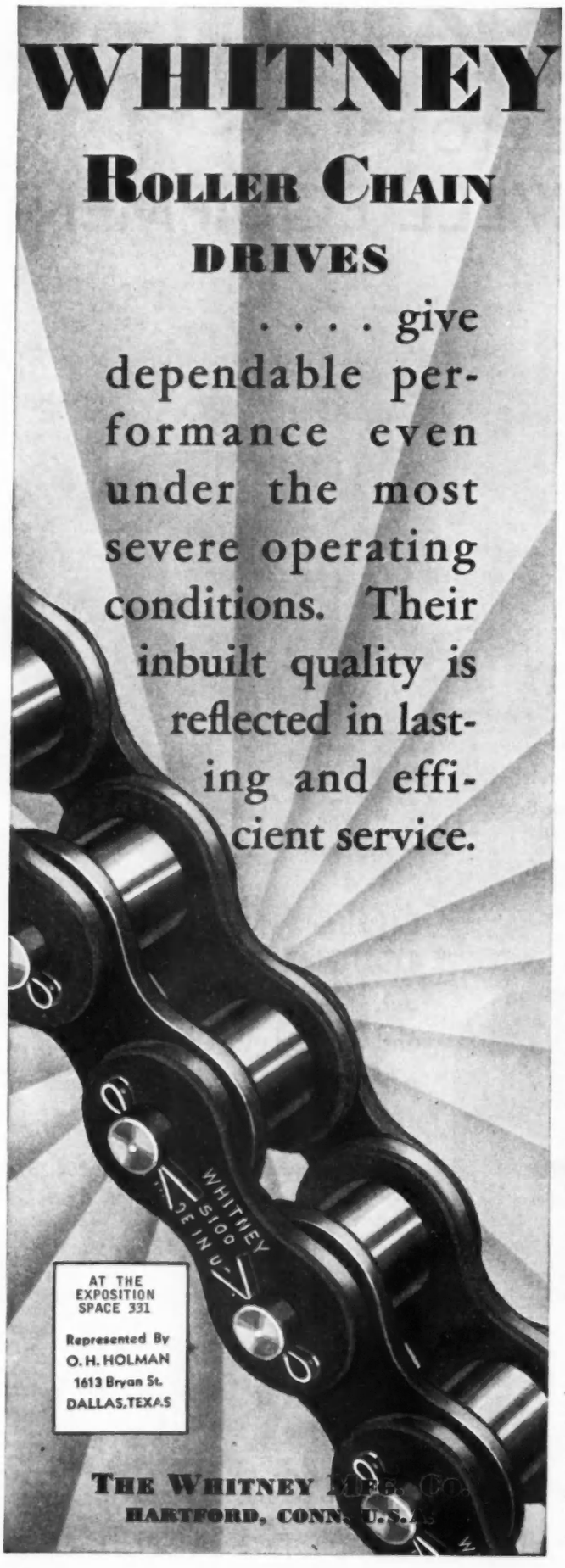
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HARTFORD, CONN. U.S.A.

least induce him to limit its scope to permanent federal cooperation in regulating crude production, which would apparently be sound natural resource conservation legislation and at the same time be acceptable to the greater part of the industry.

"Hot" Oil Output Dwindles

The mentioned tightening up on crude production regulation has been remarkably pronounced. The reinstatement of federal agents as "hot" oil detectives in East Texas, scene of most of the nation's illegal production, came April 4 when the fifth federal circuit court of appeals at New Orleans by unanimous vote of Judges Nathan P. Bryan, Samuel H. Sibley, and Rufus E. Foster stayed injunction against the agents granted in February by Federal District Judge Randolph Bryant in the Panama-Amazon test case of the oil code's legality as applied to intrastate operators. Under the stay order, to be effective until final hearing in the case by the appeals court May 2, the federal agents are empowered to inspect properties and exact reports of both producers and refiners. This litigation, like the appeal now before the Supreme Court in the J. W. Smith case, is a part of the oil administrator's effort to regain code authority over Judge Bryant's objection. Meanwhile at least some permanent strengthening of his authority has been virtually assured through inclusion in the revenue bill of one tenth cent federal taxes on crude oil at the well-head and the refinery, giving access to records and reports of producers and refiners.

Strengthening East Texas crude production control even more than reinstatement of the federal agents has been greatly increased effectiveness of efforts of agents of the Texas Railroad Commission and attorney general under the new Texas refinery control law. At the middle of the past week about 25 East Texas refineries, out of a total of about 70 in the district, were reported shut down in consequence of injunctions obtained in state courts or threats of injunctions. Although the injunctions have not closed the refineries directly, they have led to shut-downs by virtue of restraining the plant owners from violating the refinery control law, which provides that the authorities may make inspections and exact reports.

Refineries that have closed down had been processing around 25,000 barrels of East Texas crude daily, and it is alleged that a high percentage of that volume has represented "hot" oil. Thus the amount of illegal East Texas crude production is indicated to have been greatly curtailed through the refinery control activities alone, not to mention other approaches of state agents or resumed activities of the federal agents in the fight on "hot" oil. All told, the volume of East Texas "hot" oil production was indicated to have dwindled by the latter part of the past week to about 20,000 barrels daily, from around 75,000 barrels per day two weeks or so ago.

The principal cloud that remained in the brightened skies was the possibility Federal District Judge Randolph Bryant might before the end of the week upset the state refinery control program in ruling upon the recent application of a group of East Texas refiners for injunction against state authorities in enforcement of the new law. A similar application in a Texas district court was denied recently, however; and state oil control authorities were hopeful that they would be sustained also in the federal court.

Gasoline Prices Up

Obviously in consequence of reduced supplies of underpriced gasoline made from "hot" crude, the East Texas wholesale gasoline market jumped up by the unusual amount of one half cent a gallon for all three grades during the week ending April 10, rising to 3⅝ cents for third grade, 4¼ cents for middle grade, and 4⅝ cents for the products of highest octane classification. By April 12 the very cheapest price on tank car lots was 3¾ cents, while refiners' quotations to tank truckers ranged no lower than 4 cents.

» » THE WEEK'S NEWS « «
from All Fields

HIGH SPOTS IN BRIEF

California

A new world's depth drilling record has been established in California, for General Petroleum Company's test at Belridge has reached a depth of 10,960 feet, where it is reaming the hole preparatory to tetsing the showings it has at that depth. An outpost well at Mountain View is estimated good for from 200 to 400 barrels on the pump. It is two miles from production. Drilling activity at Kettleman Hills is at its greatest height.

East Texas

The Cayuga field of Anderson County was extended 1½ miles when the second well was completed. Wildcat exploration work in the Woodbine belt of East Texas is increasing steadily. The play has been carried to the extreme northeastern part of the district by a wildcat test starting in north central Franklin County, which operation is given high recommendation by geological work. In the East Texas field proper, there were three failures in 77 completions.

Oklahoma

A new pool has been opened north of Earlsboro, in the Seminole district. The Lucien field of Noble County, Oklahoma, looks more promising, recent developments indicating that it will be larger than has been anticipated.

Rocky Mountain

Wildcat operations in Colorado are increasing, particularly in the southeastern and eastern part, where Mid-Continent operators are conducting an extensive leasing campaign.

Kansas

Drilling obligations on highly regarded wildcat blocks are expected to increase drilling activity in Kansas during the year. Several important wildcat tests got underway the past week and two were completed as failures.

The discovery well of the new Schulte pool in Sedgwick County went dead after flowing 1184 barrels in 17 hours. When it resumed flowing it made cut oil.

South Texas

The Greta field, Refugio County, was extended westward one quarter mile last week by a test that commenced flowing by heads before completed thoroughly. This well indicates a flattening of the structure to the west, which may result in the development of considerable additional acreage in the area.

West Texas

Leasing activities and wildcat operations, particularly deep tests, are holding the interest of operators in West Texas. A number of companies are taking leases that will demand early testing. In Upton County, Gulf Production Company has established a record depth for cutting a 9⅞-inch hole. It is drilling below 9765 feet. The outlook for Ordovician lime production is fading in Humble Oil & Refining Company's Pecos County test, which is drilling at 8850 feet. Drilling activity in West Texas is on the increase.

North Texas

Completions in North Texas reached a new high for the year when 54 were completed during the past week. Salt water appearance in a deep Breckenridge lime horizon test has changed the outlook for a big structure in north central Young County.

Gulf Coast

Four new wildcat tests got underway in the Texas Gulf Coast. The Splendora wildcat, which showed so promisingly recently, will be completed as a gas producer.

Of importance was the finding of oil production 1¼ miles east of the Sour Lake field. Heavy mud has been used during the past few weeks to control the well and lease prices at that time soared to new highs.

A dry hole at Conroe was plugged back and deviated 4½ degrees off vertical with the result that it is now a producing well.

Lucien Pool Looks More Important

Tulsa.—Recent developments in the southern portion of the Lucien area indicate that the pool may be more important than has been thought on the basis of developments in the community block to the north. Although initial production is about average, it now appears that the structure may extend farther than had been indicated.

Sinclair Prairie Oil Company's Bohn 1, C SE NE Section 29-20-2w, was drilled to a depth of 5202 feet and gauged 1331 barrels on a 12-hour potential test. Skelly Oil Company's Long 1, C NW NW Section 28-20n-2w, was shut in at 5163 feet awaiting potential gauge after flowing 220 barrels in a one-hour head. Magnolia Petroleum Company's Kolb 1, C NW NW Section 33-20n-2w, was drilling below 4985 feet, flowing approximately 50 barrels per day by heads.

New Pool Opened In Seminole District

Tulsa.—Carter Oil Company et al's Communit-Jarvis 1, C E½ NE SW Section 18-10n-6e, approximately 3½ miles north of the Earlsboro pool, Seminole district, is giving favorable indications of a new pool in an area that has been highly thought of for several years. Wilcox sand was penetrated from 4588 to 4596 feet, operators recovering saturated cores from 4588 to 4593 feet and 4593 to 4596 feet. It is now shut down erecting tankage and building lines after swabbing at the rate of 25 barrels per hour of 32.8 oil.

Oklahoma First Reports Include 50, Scattered

Tulsa.—Under the leadership of Creek and Osage Counties the eastern portion of Oklahoma took a commanding lead in new work during the week when seven eastern counties had 32 of the total of 50 first reports for the state. Osage County led with 12 firsts; Creek County had 10; Tulsa County, four; Okmulgee County, three; and McIntosh, Payne, and Wagoner Counties, one each. In the central portion of the state Noble County had four starts and Logan County two and in southern Oklahoma, Carter County reported two new operations and Jefferson and Stephens Counties, one each. Eight first reports were made from the Seminole district, Pottawatomie County leading with three, Hughes and Seminole Counties had two each and Pontotoc County one.

Detailed reports were as follows:

In Carter County, Amos Drilling Company's Mitchell 3, SE NE NW Section 19-1s-2w, had rig on ground. Carter Oil Company's Lynn 4, SW NE SE Section 31-2s-2w, was a rig.

C. Ogden's Butler 2, SEC NE Section 16-17n-11e, was spudding, in Creek County. Holmes and Butler's Flint 4, NE NE NW NE Section 6-18n-11e, was shut down at total depth of 250 feet. Indo's Sapulpa 1, SEC NE Section 32-18n-11e, was drilling below 250 feet. Jones-Doss Oil Company's Samuels 1, SWC NE Section 7-17n-8e, was rigging up. Doke and Hughes' Jones 2, NW NW NE NW Section 10-7n-8e, had rig on ground. J. E. Crosbie's Lacey 1, SE NW NW Section 22-18n-8e, was rigging up. L. B. Jackson's Wills 9, CSE NW Section 26-18n-8e, was drilling below 350 feet. Merrity et al's Williams 6, SE SW NE Section 27-18n-8e, was drilling below 350 feet. W. B. Pine's Richards 3, NW NE SE Section 27-18n-8e, had machine on ground. A. R. Edmonson's Jones 1, SWC NW Section 34-18n-8e, was rigging up machine and was formerly reported as Todd and Williby's 1. Regal Oil & Gas Company's Coonrod 1, NE NW NE Section 9-19n-9e, had Skinner sand from 2040 to 2071 feet, was shot with 50 quarts and had estimate of 50 barrels of oil.

Limestone Oil & Gas Company's Walker 11, CSE NE NE Section 15-7n-8e, had rig on ground in Hughes County. Royce's Warren 1, NE NE NW SE Section 28-7n-8e, was a machine.

Moday Oil Company was moving in tools for Trout 1, SE SW SE Section 19-6s-5w, in Jefferson County.

Stanolind Oil & Gas Company et al's Rice 6, NE NW NE Section 11-14n-3e, in Lincoln County, was building rig.

Carter Oil Company and Gypsy Oil Company's Herron 2, CNE NE Section 28-17n-4w, was digging pits and cellar in Logan County. Mid-Continent Petroleum Corporation's Campbell 1, CSE NE Section 33-17n-4w, old well was rigging up to drill deeper from old total depth of 6121 feet.

In McIntosh County, McGirl and Sherry's Klein 1A, SWC SW Section 17-10n-14e, was drilling below 300 feet.

Noble County had four new tests as follows: The Texas Company et al's Vox 1, SW NE SE Section 28-22n-2w, was moving in rig; Continental Oil Company et al's Bennett 1, SEC NW Section 19-20n-1w, digging cellar; Magnolia Petroleum Company's Smith 1, CNE SW Section 29-20n-2w, building rig. Mid-Kansas Oil & Gas Company's Dahl 1, SEC SE Section 31-14n-3w, located.

Bingman Brothers' Bosen 5, SE SE NE NE Section 36-14n-12, in Okmulgee County, was spudding. Harmon Brothers' Harjo 2, SE SE NE SE Section 6-15n-12, was a machine. Summers' Roe 3, NE NE NW NW Section 16-15n-14e, was a machine.

E. O. Platter's 3, SWC NE Section 30-22n-9e, old well was rigging up to deepen from old depth of 518 feet in Osage County. Sinclair Prairie Oil Company's 1, SEC SE Section 2-24n-6e, was digging cellar. Kasishke et al's 9, SW NW NE Section 16-24n-7e, was spudding. Lewis Production Company's 3, SE NE NW Section 21-24n-7e, was rigging up. Lewis Production Company's 4, NE SE NW Section 21-24n-7e, had rig on ground. Higgins and Kasishke 3, CEL E½ NW Section 24-24n-7e, had rig on ground. Carter Oil Company et al's 4, NW NE SE Section 10-25n-6e was building rig. Phillips Petroleum Company's 5, SW SE NW Section 15-25n-6e, was rigging up. A. H. Kasishke's 4, NW NE SW Section 15-25n-6e, was rigging up. J. A. Morrison's 2, NE SE SE Section 35-25n-11e, was located. Phillips Petroleum Company's 16, NE SW SE Section 21-25n-12, old well, was rigging up to deepen from old total depth of 1728 feet. Reva Oil Company's 1, NE SE SE Section 30-28n-11e, was spudding.

Mulberry Oil & Gas Company, was rigging up Fisher 3, NW SE NE Section 27-19n-4e, old well drilling deeper from old total depth of 3470 feet in Payne County.

In Pontotoc County, Moore et al's Wireck 2, NE SE SW Section 29-2n-7e, was building rig.

Gypsy Oil Company et al's Tenwas 4, SW SW SE NW Section 25-6n-4e, was a cellar, in Pottawatomie County. Key-Okla.'s Hines 2, NWC NE Section 9-7n-4e, was a cellar. Mid-Continent Petroleum Corporation's Atwater 1-A, NE SE SE Section 9-7n-4e, was building rig.

Legon and Todd's Wilson 2, NE NE NE NW Section 30-8n-8e, in Seminole County, was drilling below 3217 feet. Crofton's Strothers 1A, CEL NE SE Section 3-9n-6e, was a cellar.

In Stephens County, Lewis Sikes, Mulkey 1, CNE Section 16-1s-8w, had rig on ground.

In Tulsa County, Kiskaddon's Berry 1, SE SE NW SE Section 17-17n-14e, was rigging up. R. O'Neal's Lewis 1, SE SE NE NW Section 36-17n-14e, was drilling below 225 feet. Mechlin's Nave 2, CNE SE Section 25-18n-14e, was drilling below 1100 feet. D. Morgan's Johnson 1A, NE SW NW SE Section 35-18n-14e, was drilling below 550 feet.

R. K. Marrs' Island 1, SE SE NW NW Section 14-17n-15e, in Wagoner County, was drilling below 300 feet.

Nineteen Wells Completed In 14 Oklahoma Counties

Tulsa.—Nineteen new oil wells added 8896 barrels initially to the Oklahoma reserve during the week. Completions in 14 counties resulted also in four dry gas wells with initial volume of 10,500,000 cubic feet and 14 dry holes, a total of 37 completions which involved the drilling of 80,025 feet of hole, 662 feet of which was in one old well drilled deeper.

Completions of the week were as follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
Creek County—		
Sheldon Oil, Biller 1, se se nw nw 8-16n-11e	*	2802
C. R. Fortner, Flint 1, ne ne nw 5-18n-11e formerly reported in section 6	15	1626
J. E. Crosbie, B. F. Casey 2, ne nw ne se 3-17n-8e	60	1385
Gus Beagler, Allen 1A, sw se nw 12-19n-9e	5	1240
Dewey County—		
Continental Oil, Beumer 1, csw ne 8-19n-20w	*	4340
Garfield County—		
Sinclair Prairie, L. Windler 17, ne nw se 25-22n-4w	15	1153
Hughes County—		
Elliott, Pickens 3, ne sw ne 15-7n-8e	15	1188
Limestone Oil & Gas, Walker 10, nw se ne 15-7n-8e	25	1215
Ross Peterson, Witty 1A, se sw sw nw 22-7n-8e	*	375
Troupe et al, Price 1, sw sw sw sw 22-7n-8e	*	1178
Kay County—		
E. D. Buck, Bush 1A, cne ne 24-28n-4e	¶½	488½
Lincoln County—		
Magnolia Pet., Sedore 1, se sw ne 2-14n-3e	*	5145
Stanolind et al, Rice 4, nw ne ne 11-14n-3e	2300	5015
Magnolia, Telford 4, se sw se 7-14n-4e	250	4956
Twin State, Cook 1, swc sw 1-14n-3e	2988	5051
Muskogee County—		
Robinson Oil, Jackson 1, sw sw se 8-13n-16e	*	2280
H. L. Jolly, Spaulding 5, cwl sw ne 9-15n-18e	*	1621
Adcock, Roe 1, ne se se 21-16n-15e	*	1350
Noble County—		
Shell et al, Wolff 2, cnw nw 17-20n-2w	*	5355
Okmulgee County—		
Cusack & Rounsville, Johnson 1A, se se nw sw 29-12n-12e	¶4	1914
Gled Oil, Fox 2A, ne se ne sw 22-13n-14e (twin)	85	2475
C. Peterson, Ware 11, se sw sw 9-15n-14e	25	830
Bryan Petroleum, Jefferson 1, nwc nw 34-16n-13e	¶1	625
Osage County—		
Osage Syndicate, 16, 320 feet west cnw 7-21n-9e	10	541
Bay Oil & Branstetter 1, nec se 3-23n-7e	*	2723
J. G. Buel, 14, ne sw se 25-23n-8e (owdd)	*	2388
Champlin Refining 1, sec nw 16-24n-7e	315	2704
Lewis Production & Continental 2, se ne sw 16-24n-7e	1130	2670
Champlin Refining 4, swc se 16-24n-7e	425	2663
Norbla Oil 2, sec ne 25-24n-7e	*	719
Carter et al 2, swc se 10-25n-6e	¶1¼-1010	2884
Pontotoc County—		
Manahan et al, Norris 1, se nw se 18-2n-7e	81	1777
Pottawatomie County—		
Reeves, Brandenburg 1, se sw sw 3-7n-4e	*	3465
Seminole County—		
Sinclair Prairie, Salbruno 1, nwc nw	85	4122
Sinclair Prairie, Foster 5, nwc nw 3-8n-8e (owpb)	57	3980
Tulsa County—		
Rachael Oil & Gas, Hodge 3, csl ne nw	¶5	1488
Ireland, Williams 2, se sw ne 32-19n-11e	*	2084

*Failures; †Junked; ¶Million cu. ft. gas.

Eight of 15 Kansas Completions Produce

Wichita, Kansas.—Kansas scouts reported eight new oil wells with total initial production of 2551 barrels, six dry holes, and one abandoned location, a total of 15 completions during the week. Footage amounted to 37,682 feet, all but 19 feet of which was in new holes. Reports are shown below:

Company, Well and Location	Init. Prod. Bbls.	Depth
Butler County—		
Bruce et al, Miller 1-A, cse ne 10-28s-4e	*	2621
Greenwood County—		
Gore et al, Beal 7, ne sw ne 28-23s-11e	115	1990
Anderson, Albans 2, se ne sw 17-24s-13e	25	1607
Harvey County—		
Frost Drilling, Marten 5, se sw ne se 19-22s-3w	225	3463
McPherson County—		
Goering Brothers, Decker 1, nec se 20-18s-1w	†	....
Lario Oil & Gas, Hill 5, cwl s½ se 23-19s-2w	225	3427
Rice Oil, Wiles 1, ne nw ne 25-19s-2w	324	3437
Harris and Haun, Rupp 1, swc sw 12-21s-22	*	3527
Mid-Kansas, Schmidt 4, se ne nw 33-21s-3w	245	3468
Reno County—		
Manning and Terry, Bartel 1, sec sw 36-22s-4w	*	3340
Rice County—		
Jones, Santa Fe 2, sw nw sw 32-19s-9w	*	309
Skelly Oil, Gill 1, cel ne ne 15-19s-10w	*	3327
Mid-Kansas, Proffitt 1, nwc se 18-20s-9w	1301	3337
Russell County—		
Stanolind Oil & Gas, K. Austin 21, ne sw sw 30-12s-15w (owdd)	91	3082
Stafford County—		
Magnolia, Tucker 1, sec nw 27-21s-1e	*	3810

*Failures; †Junked; ¶Million cu. ft. gas.

McPherson County Leads In New Work in Kansas

Wichita, Kansas.—Kansas operators reported 13 starts during the week with McPherson County holding its lead of the previous period. New work in the state has fallen below normal during the past month as developments have been awaited from important wildcat tests. However, geological and geophysical departments continue activities over a wide area and a large number of new deals are expected in the near future.

Western counties accounted for eight first reports and eastern counties for five as shown in the report below:

In Barton County, National Refining Company's 1, CNE NE Section 2-19s-13w, had rig timbers on ground.

McGinnes' Wiggins 12B, CEL SW NE Section 30-24s-11e, was spudding in Greenwood County. Polhamus' Sample 1, CSL S½ SE Section 35-25s-10e, had machine on ground.

Moorshead et al's Friesen 1, NWC NW Section 20-22s-3w, was building rig, in Harvey County, and was formerly reported as Streeter and Stearns 1.

McPherson County had four first reports as follows: Cling's Paulseen 1, NW NE NW Section 6-19s-2w, was a location; Shell Petroleum Corporation's Finkle 3, NW NE NW Section 23-19s-2w, was located; Helmerich & Payne's Lovett 1A, SWC NW Section

24-19s-2w, was located; and Johnson's Benson 1, SE SW SE Section 12-19s-3w, had rig timbers on ground.

Olson Oil Company's Roberts 3, in Reno County, CNW SW Section 25-23s-4w, was building rig.

Ramsey Oil Company's School land 2, was located, NE SW NW Section 32-19s-9w, in Rice County.

In Russell County, Stanolind Oil & Gas Company's Mitchell 1, SEC SW Section 5-15s-14w, was located.

Sovereign Oil Company's Maxwell 1, CNW NW Section 20-25s-1w, in Sedgwick County, was a location. White et al's Gorman 1B, SW NE NW SW Section 6-26s-1e, was building rig.

Nye et al's Sage 1, had machine on ground, in Woodson County, SEC SE Section 36-25s-13e.

New Well for Crescent Area

Tulsa.—In the Crescent area of Logan County, Eason Oil Company's Katschor 2, C NW SW Section 34-17n-4w, had Wilcox sand from 6221 to 6273 feet, making 1199 barrels the first 15 hours after going dead twice during the compltions stage.

Sedgwick County Well Goes to Water After Show

Wichita, Kansas.—The discovery well in the new Schulte pool six miles west of Wichita furnished one of the setbacks during the week when, after flowing 1184 barrels in 17 hours, went dead and when resumed started making water. After the well had gone dead it was loaded with water and five-inch casing set at 3652 feet. When swabbed down 800 feet below the derrick floor it started flowing but within a short time commenced cutting water. When last reported it was making about 12½ barrels of oil and 40 barrels of water per hour. The water is salty and does not appear to be coming from behind the casing. Some geologists are of the opinion that the well is on the edge of a structure and that important production may be found in other directions. Twenty-three dry holes have been drilled in the vicinity.

In Barton County, Walter Shearon et al's Kimbler 1, SE NE NE Section 31-18s-11w, had rig on ground. C. L. Price et al's Erlich 1, NW SE Section 10-16s-13w, was still a location.

Tom Palmer and Darby Petroleum Corporation's Harder 1, NW SE NW Section 27-24s-3e, Butler County, was drilling below 1525 feet.

E. Yarnell et al's Spear 1-A, SE NE NE Section 31-33s-6e, Cowley County, slightly over one mile northwest of gas production and five miles southwest of Dexter pool which is the nearest oil production, was dry and abandoned with a hole full of water at 2210 feet.

In Dickinson County, Dutch Oil Company's Phillips 1, CNE NW Section 15-15s-1e, was shut down at 250 feet.

Lerke et al's Mason 1, CNE NE Section 5-31s-10e, was underreaming eight-inch casing at 900 feet, in Elk County.

In Finney County, National Refining Company et al's Smith 1, CSE SW Section 2-23s-29w, was drilling below 1585 feet.

Oko Oil & Gas Company's Austin 1, CSE Section 11-22s-10e, in Greenwood County, was drilling below 1385 feet.

Smith, Ash et al's Wilkins 1, SEc Section 13-17s-10w, was drilling below 2590 feet in Lyon County.

Harris-Haun and Phillips Petroleum Company's Rupp 1, SWc Section 12-21s-2w, three miles northeast of Moundridge in McPherson County, had hole full of water in siliceous lime from 3525 to 3527 feet and was dry and abandoned. Continental Oil Company et al's Graber 1, NE NW Section 32-21s-1w, was spudding below 205 feet. Slick, Pryor and Lockhart's Ordineal 1, SE SW SE Section 21-20s-3w, was drilling below 1140 feet. Phillips Petroleum Company's Tinsley 1, CSW SE Section 5-20s-1w, was dry and abandoned at 3446 feet. Tom Palmer's Nordling 1, SE SW Section 19-18s-2w, was spudded. Goering Brothers and Bradley's Decker 1, NE SE Section 20-18s-1w, was still a cellar. Wakefield and Hawkins' Smith 1, SW SW SE Section 17-17s-1w, approximately 10 miles northeast of the McPherson gas field in the northeast corner of the county, was dry and abandoned at 3327 feet.

Ashby et al's Close 1, CSE Section 24-5s-18w, was fishing tools at 2945 feet, in Phillips County.

Lario Oil & Gas Company and Elwell's Russell 1, NE NE SW Section 29-23s-7w, in Reno County, was dry and abandoned at 4039 feet. Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Hilger 1, SE SE NW Section 16-26s-4w, was drilled deeper to 4067 feet; swabbed 275 barrels of oil in 11 hours and 45 minutes; swabbing down to 3500 feet; had show of water and was running tubing.

In Rice County, Deitrick et al was spudding Fitzpatrick 1, CNE NE Section 30-21s-8w. Langston et al's Markle 1, NE NE SW Section 1-20s-9w, was fishing tools at total depth of 1105 feet. George Dickey et al's Hunter 1, NEc Section 35-19s-7w, had hole full of water from 2790 to 2800 feet and was drilling below 2870 feet. Reserve Development Company's Heinz 1, NE SW SE Section 8-18s-10e, had rig on ground.

Ashby et al's Stockton 1, CSW SW Section 15-8s-19w, was spudding at 21 feet, in Rooks County. Phillips Petroleum Company's Dopita 1, CSW SW Section 31-8s-17w, was drilling below 2670 feet.

Western Exploration's Andrea 1, SWc Section 30-15s-12w, one mile east of the nearest production in the Sellens pool in southern Russell County, was drilling below 2468 feet.

In Stafford County, Vickers Petroleum Company and Phillips Petroleum Company's Cravens 1, SW NE Section 15-25s-11w, was running tubing at 3921 feet.

Wentz, Continental Oil Company et al's Kerns 1, SE SE NE Section 6-34s-2w, was drilling below 4380 feet.

Alma Petroleum Company et al's Rhodes Estate, CSW SW Section 14-11s-23w, in Trego County, was moving in rig.

Obligations to Increase Development in Kansas

Wichita, Kansas.—Drilling obligations on highly prospective blocks are expected to play a major part in wildcat development in Kansas during the year. Two interesting tests which fall in this category were announced during the week. Woods Brothers' H. Anthony 1, CSW SW Section 17-31s-9w, eight miles northwest of the town of Attica in northwestern Harper County, was building rig and had to start drilling by Sunday, April 15. This test is located on a block of about 6000 acres which has been shot with the seismograph. Wakefield et al's dry hole in Section 28-31s-9w, is reported to have had 5,000,000 cubic feet of gas and a strong showing of oil in the Chat horizon.

J. M. Kessler and Blackman Oil Company staked location for a rotary test on SW NW SW Section 12-28s-5w, the Bolinger farm six miles east of the town of Murdock in eastern Kingman County. The block includes approximately 3200 acres which lie in the trend to the south of Stanolind et al's Hilger well. Magnolia Petroleum Company, Stanolind Oil & Gas Company, Gypsy Oil Company and other major operators have blocks in the vicinity. Drilling must start by June 1 and operators plan on moving in tools about May 15.

HARRY F. SCHOONOVER, superintendent of production for Pure Oil Company in the Texas-New Mexico division, with headquarters at Fort Worth, has been confined to the Cook Memorial Hospital, Fort Worth, for the past several weeks with pneumonia. His condition necessitated blood transfusions early last week.

Search for Deep Production Holds Interest in West Texas

San Angelo, Texas.—Stepping up its progress to about 30 feet of new hole daily, the Gulf Production Company's J. T. McElroy 103, Upton County, deep test, is a strong contender for deep drilling honors. This projected Ordovician lime test is drilling in shale below 9765 feet, using a 4½-inch O.D. string of drill pipe and cutting a 9⅞-inch hole. It is reported that a record depth for this larger size hole has been attained. Indications are that McElroy 103 is nearing the base of the Pennsylvania section. Plans are to resume coring with the first change in formation.

The outlook for production in the Ordovician lime zone is beginning to fade in the Pecos County wildcat test of Humble Oil & Refining Company on the White-Baker ranch, located about eight miles due west of the Yates field, as it has drilled to 8850 feet, or more than 800 feet of the Ordovician section. Traces of oil saturation were noted in cores recovered near the 8500-foot level, and the company was expected to set pipe and test, but resumed drilling after making three unsuccessful drill stem tests at 8494-8694 feet. First segments of Ordovician were reported at 8040 feet, with an elevation of 2715 feet.

In the vicinity of Fort Lancaster, located in west central Crockett County, the above two companies have been quietly accumulating long term leases for some months as protection against a future Ordovician test. Buying has been more active lately with prices ranging from $7.50 to $12.50 per acre. Their interest in the area is largely predicated on geophysical information.

Appearance of a flow of petroleum gas estimated at more than 1,000,000 cubic feet daily in the north central Andrews County wildcat test of Humble Oil & Refining Company on the R. M. Means ranch, while drilling at 2572 feet is taken as a favorable omen for the company's outlook for a producer. It is located in the NEc Section 2, Block A-35, Public School Lands, and about 2½ miles northwest of C. B. McKennon & Neff's Means 1, which was abandoned in February, 1928, in salt and anhydrite at 3375 feet. The latter quit short of its goal, but based on upper markers pointed the way for companies to note the presence of a structural condition. Humble Oil & Refining Company has built up a big block of leases, paying $25 per acre for some of the tracts, near this wildcat, and is one of the largest holders of leases on fee lands of the University of Texas to the east. This Means ranch test is being touted as a producer when it reaches the big lime.

Ector County, the most popular county in West Texas with wildcatters for several years, is to be given another test in the northwest part of the county by Landreth Production Corporation, Fort Worth. The latter has contracted to start drilling within 30 days on the Clarence Scarborough (was Cowden) ranch, having made location in the SEc SE Section 20, Block 44, T-1-N, T&P Ry. Survey, with provisions being made to carry a 10-inch hole to the 4200-foot lime zone so as to be prepared to continue on to the Ordovician lime zone. This location is about 2½ miles northwest of Penn Oil Company and Devonian Oil Company's Goodman 1, which showed live oil before reaching sulphur water and abandoning at 4399 feet in August, 1930. Landreth Production Corporation has acquired from one fourth to full working interest in 19 sections to support this wildcat, including an interest in nine sections held by the American-Maracaibo Company and six sections by the Penn Oil Company and Devonian Oil Company. C. J. "Red" Davidson, Fort Worth contractor, and other's H. E. Cummins-Empire 1, NEc NW¼ Section 10, Block 45, T&P Ry. Survey, T-1-N, is exploring the extreme northwest part of Ector County, and late last week was drilling below 1650 feet.

A ten-well drilling program is in store for the Simms Oil Company in the west end of the Howard-Glasscock County lime field as result of additional lease purchases made lately. This area was given new life recently when H. O. Wooten et al's S. Turner-Shell 1, NEc W½ E½ NE Section 19, Block 33, Glasscock County, earned a potential rating of 1752 barrels daily on the pump from lime at 2174-2180 feet. Simms Oil Company purchased the lease on the NW 160 acres of the same section, paying $100 per acre cash and an additional bonus of $200 per acre out of production, besides assuming a contract to drill a test on each 40-acre unit, else surrender the unit. Simms Oil Company also leased the E½ SW Section 18 at the same consideration, except that three tests must be drilled on the 80-acres. The company had previously acquired the E½ SE Section 18, paying a similar bonus, and agreeing to drill three wells.

New Oil Pool Opened In New Mexico

Hobbs, N. M.—A new oil field for southeastern New Mexico, about four miles northwest of nearest production at Jal, was believed assured last week when General Crude Oil Company and Magnolia Petroleum Company's Meyer 1, NEc SE Section 22-24s-36e, was rated at 3000 barrels of oil and 12,000,000 cubic feet of gas daily on a drill stem test in lime at 3474-3508 feet.

This wildcat was originally completed as a big gasser at 3438 feet in July 1929 and was recently deepened for an increase in gas and also a show of water before drilling into oil saturated lime at 3501-3508 feet.

The owners plan to ream the hole to 3494 feet for another drill stem test and will then run casing to shut off upper gas before trying to complete as an oil producer.

Another large oil producer for the Jal field was completed last week when Continental Oil Company and The California Company's Ascarate 1, NWc E½ Section 24-25s-36e, gauged 165 barrels of pipe line oil in six hours flowing via one-quarter-inch choke on three-inch tubing at depth of 3290 feet. It is rated good for 1,400,000 cubic feet of gas daily on this small choke. Seven-inch casing was cemented in saturated lime formation at 3246 feet.

This new producer is an east offset to a big well completed early in February by the Southern Petroleum Exploration, Inc. Empire Gas & Fuel Company's W. A. Lindley 1-B, a north offset to the latter well, was in process of completion, having tested 31 barrels fluid, including three percent drilling mud, on 1½-hour gauge via tubing at 3317 feet.

A fourth addition to the active operations in the Eunice field was derived through the starting of a test by Rapollo Oil Company's State 1, NEc W½ NE Section 19-21s-36e, offsetting Getty Oil Company's producer.

Appearance of 250,000 cubic feet of gas in The Texas Company's J. S. Lea 1, SWc NW Section 14-20s-34e, and about 2½ miles north of the Lea-Lynch pool, while drilling in lime at 3533 feet has brightened the outlook

(*Continued on page* 162)

East Texas Wildcat Play Gains Impetus

Tyler, Texas.—The Woodbine sand, and possibly the Trinity sand, is the projected goal of a wildcat to be drilled in north central Franklin County along the Mexia fault zone in the extreme northeast part of East Texas by Humble Oil & Refining Company, Edwin B. Hopkins, E. DeGolyer and the Petroleum Finance Corporation. This group has an almost solid block of 6000 acres held under lease covering a structure outlined by geophysical surveys, extending in a southwest to northeast direction for about seven miles. Reflection shooting has satisfied the sponsors of the test that a closure prevails on this undrilled structure, and that the fault has a throw estimated at about 500 feet.

Humble Oil & Refining Company owns 50 percent interest in the block and well, and will have charge of operations. It is reported that the location will be on or near the W. D. Gill Survey, being several miles south of Hagansport, and on a direct line between groups of tests previously drilled to the southwest in what is known as the Harper-Prince area and to the northeast near Talco, Titus County. This fault trend has been in the limelight for some years, particularly that extending from southeastern Hunt County through Titus County, but all tests proved dry. Based on geophysical information, the Hagansport area is said to stand out as an exceedingly favorable spot for the trapping of oil in the Woodbine, and if the Woodbine sand fails to produce the group plan to continue to the Trinity. Their block extends northeast from the C. C. Dupree Survey to the B. H. Epperson Survey. Humble Oil & Refining Company previously held most of the acreage under lease, and was not renewing lease contracts upon expiration when the Geophysical Service, Inc., revealed new geophysical information on the area through a recent survey. The above independents then made a deal with Humble Oil & Refining Company to pool their leases and make the test.

Wildcat exploration work in the Woodbine sand belt of East Texas is steadily increasing in volume, and recent locations include two tests for Cherokee County. In the southern part of the county, T. J. Wood, Houston, Texas, and associates made location to drill 150 feet from the north and west lines of the new Birmingham Development Company 160-acre lease, Levi Jordan Survey. W. L. Stearns, Tyler, and others made location to drill in the southeast corner of the W. L. Stearns 89-acre tract, S. A. Maverick Survey. Another new location is the northeast Upshur County test of R. S. Randerson, Tulsa, et al, on the J. H. Miner tract, Aaron Lowery Survey, about three miles northeast of Coffeyville.

In Anderson County, Byrd-Frost, Inc. and Stanolind Oil & Gas Company's Mrs. Alice Scott-Pure 1 (300-acres), Jas. Crawford Survey, Slocum area, logged Pecan chalk at 4379-4852 feet with an elevation of 398 feet, and was drilling sandy shale at 5150 feet. Tide Water Oil Company and Texas Seaboard Oil Company's N. N. Wills 1, Cayuga area, topped Woodbine section at 3840 feet, with an elevation of 312 feet and logged oil sand at 4060-4086 feet, completed flowing 133 barrels of oil per hour via two ¾-inch chokes; L. A. Rampy 1, Cayuga area, topped Woodbine section at 3770 feet and top gas sand at 3830 feet, with elevation of 291 feet, and showed oil on drill stem test at 4042-4071 feet; Wortham 1, Cayuga area, topped Woodbine gas sand at 3880 feet and second sand 4035 feet, with elevation of 317 feet, and coring oil saturated sand at 4060-4075 feet.

In Cass County, J. D. Kneen et al's E. H. Ball 1 (160 acres), Cass County School Land Survey, is rigged up and shut down. Remley-Nelley & R. Kamon Group No. 1's Mrs. I. O. Savage 1 (121 acres), Mary Patterson Survey, has cemented surface pipe. H. F. Wilcox Oil & Gas Company (was S. A. Pace-T. H. Pardoe's) S. A. Orr 1 (316 acres), G. W. Morris Survey, preparing to deepen from 3881 feet.

In Freestone County, J. B. Daniel Oil & Royalty Company's P. D. C. Ball 1, J. Y. Aguilera Survey No. 2, Red Lake area, logged Pecan chalk at 3029-3179 feet and Austin chalk at 4102 feet, elevation of 427 feet, and is shut down in chalk at 4250 feet. Creighton et al's Holley 1 is standing after cementing casing at 5048 feet.

In Henderson County, J. Roy Black, Darby Petroleum Company, Stanolind Oil & Gas Company et al's C. B. Meredith 1, Wiley Kay Survey, is moving in rig. Harry A. Baker et al's Josie Dupree 2 (150 acres), Geo. Hancock Survey No. 8, has erected derrick. McElreath-Suggett Oil Corporation's C. D. Franklin 1 (38.3 acres), Stephen Hatten Survey, northeast of Opelika, was drilling below 1600 feet with an elevation of 390 feet. Wm. C. McGlothlin et al's A. J. Saylers 1 (47 acres), Anderson Webb Survey, North Murchison area, logged Pecan chalk at 2709-2825 feet, with an elevation of 420 feet, and was drilling in shale below 3150 feet. Rector & Webb's S. J. Riddlesperger 1 (50 acres), W. F. Mitcham Survey, logged Pecan chalk at 2280-2509 feet, with an elevation of 350 feet, claim top of Austin chalk at 3117 feet and was drilling below 3790 feet.

The Hunt County test of J. H. Wagoner Oil & Gas Company (formerly M. R. Meade and J. K. McKenzie) on the J. R. Love 95-acre tract, John Grilisky Survey, topped Pecan chalk at 1562 feet and first Austin at 1886 feet, with an elevation of 558 feet, was drilling in chalk at 2045 feet. M. O. Shawver et al's J. H. Jones 1 (99 acres), Lydia Ferguson Survey, topped Austin chalk at 1180 feet and was drilling in hard chalk at 1615 feet.

In Leon County, Shell Petroleum Corporations et al's G. W. Lee 1 (382 acres), Wm. Cooper Survey, topped Woodbine section at 5494 feet, with an elevation of 291 feet, passed up series of gas zones and salt water, coring 5810 feet.

The Limestone County test of C. M. "Dad" Joiner et al on the S. A. Knapp 676¼-acre tract, Luke Moore Survey, Kosse area, is standing at 1700 feet. V. V. Waite et al's Cannon Barron 1 (160 acres), W. G. McKenzie Survey, is a location for Trinity sand test.

In Navarro County, W. J. Keeling et al's J. F. Rushing 1 (84 acres), Henry Ford Survey, is a location.

The Rusk County test of G. A. Hathaway et al on the Gray tract, James McLain Survey, logged first Georgetown lime at 3140 feet, with an elevation of 315 feet, remains inactive at 4403 feet. Geo. F. Hudson et al's Jeff H. Phillips 1-A, N. Villareal Survey, topped Pecan chalk at 2412 feet and was drilling at 2610 feet.

In Rains County, J. W. Halsell et al's T. F. Jones 1 (22 acres), B.B.B.&C. Ry. Survey, testing show of oil in Nacatoch sand, 1610-1632 feet.

In Smith County, Cochran and Williams' Mrs. J. M. Dean 1 (100 acres), B. Moore Survey, is a location. Humble Oil & Refining Company's H. C. Tucker 1 (339 acres), John Bell Survey, A-160, logged Pecan chalk at 2703-3154 feet and Austin chalk at 3717-3777 feet and topped Woodbine sand at 3780 feet, testing salt water at 3885 feet and abandoned. B. F. Phillips et al (was M. M. Rowan et al) Gibbons Manufacturing Co. 1, J. M. Garcia Survey, preparing to deepen from 3812 feet.

In Upshur County, Protho, Stewart & Vaughn's M. A. Vaughn 1, P. B. Standifer Survey, testing Nacatoch sand at 1065-1126 feet. Otto L. Morris et al's F. L. Bradley-Sun 1 (41 acres), Jas. Scott Survey, logged Pecan chalk at 2307-2875 feet and Austin chalk at 3543-3617 feet, with an elevation of 243 feet. Testing Woodbine sand (crooked hole) at 3622-3626

feet. J. K. Wadley et al's Cobb-Flewellen 1 (50 acres), M. Mann Survey, dry and abandoned in salt water at 3695-3723 feet. R. S. Randerson et al's J. H. Miner 1, Aaron Lowrey Survey, is moving in materials.

The Van Zandt County test of C. A. Gilliam, Virgil Whitworth and Arthur Allen on the A. T. Bass 16-acre tract, Wm. Hart Survey, Edgewood area, spudded and shut down. Roy Streight et al's J. W. Mallory 1, J. Walling Survey, was drilling at 750 feet. John D. Wrather et al's G. W. Carter 1 (10 acres), Wm. Daniels Survey, logged Pecan chalk at 1616-1764 feet and Austin chalk at 2513-2718 feet, with an elevation of 477 feet. Testing Woodbine sand at 2909 feet.

Deep Young County Test Is Disappointing

Wichita Falls, Texas.—Appearance of salt water in the Breckenridge lime zone at 4014-24 feet in the north central Young County wildcat test of Associated Developers, Inc., on the R. Sparks-Brazelton tract, SW¼ Section 286, T. E. & L. Company Survey, has changed the outlook on what was believed to be a big structure.

It is located about four miles north of lime producers in the Horal-Morrison field, and belief was held in some quarters that the lower lime would produce for the entire distance. Controlled by a group of North Texas independent companies and operators, the Associated Developers, Inc., is assured of a small producer in the Strawn at 2960 feet, as it now yields about 25 barrels daily through bradenhead from this upper zone.

Territory to the south of the Horal-Morrison was partially defined when Pitzer & West's W. W. Haggard 1, NWc Section 470, failed to respond to acid treatments or shots with nitro, and has been plugged at 4082 feet.

Electrical Association Elects Officers

Fort Worth, Texas.—Dallas Morris Chambers, Standard Pipe Line Company, Shreveport, was elected president of the Petroleum Industry Electrical Association at the annual meeting held here April 12-14. J. W. Flint, The Empire Companies, Bartlesville, Oklahoma, was elected vice president, and H. E. Browne, Sinclair Prairie Pipe Line Company, Independence, Kansas, was re-elected secretary-treasurer.

The board of directors is made up of past presidents of the organization which is composed of officials and department heads of the majority of the leading major and independent crude and natural gas trunk line systems in the greater Mid-continent.

Cayuga Extension Opens Area to Competitive Drilling

Palestine, Texas.—Competitive drilling is in store for the Cayuga field, latest oil strike in the Woodbine sand section of East Texas, since the discoverers have completed two prolific wells one mile apart, with two more tests in the sand and ready to complete. Independent operators with lease protection within and near the discovery block are taking steps to share in the production offered by the field, and by mid-summer an actively development program will be underway.

Extending the producing area approximately one mile to the northeast, Tide Water Oil Company and Texas Seaboard Oil Company, the discoverers, completed Mrs. N. N. Wills 1 on April 10, flowing at rate of 133 barrels of 28.5 gravity oil per hour on two ¼-inch chokes on tubing and casing from Woodbine sand at 4070-4086 feet. The first ten feet of oil saturated sand was purposely cased off with seven-inch pipe at 4070 feet to attain a more balanced gas-oil ratio. This well is credited with having a larger potential oil flow than the same companies' discovery well, which opened the new field for northwestern Anderson County last March 1. The entire 26-foot section of sand taken in by Wills 1 was credited with being on a par for oil saturation with that found in any other Woodbine sand field in the district.

Casing was cemented late last week on two other tests by Tide Water Oil Company and Texas Seaboard Oil Company after making a normal penetration of the oil sand, which prevails in the lower part of the Woodbine section in this field. These two tests will require three offsets each. L. A. Rampy 1, located nearly a half-mile southeast of the discovery well, cored oil sand at 4054-4071 feet, and cemented seven-inch pipe at 4050 feet after making a successful drill stem test at 4042-4071 feet. V. C. Wortham 1, an intermediate test, logged oil satu-

Wills 1 of Tide Water Oil Company and Texas Seaboard Oil Company, which has provided an extension of production at Cayuga, northwestern Anderson County, eastern Texas. It is the first well completed since the discovery well came in, and it tends to indicate the district will be an important Woodbine sand field of considerable area.

rated sand at 4060-4089 feet with some shale in the top section, and shut down to cement casing at 4075 feet.

Hill & Hill, Fort Worth operators, are slated to be one of the first to join the discoverers in exploring the structure, which is generally believed to offer a productive area of more than 10,000 acres. These operators are to drill in the southwest corner of the south 49-acres of the W. L. Tubbs 109.17-acre tract, Sam Edmondson Survey, and due west of the town of Cayuga, observing the railroad commission's well spacing rule of a minimum of 467 feet from property line.

Although definite locations have not been made public, a number of other lease owners are making their plans to proceed with development work to the north and northeast of production.

Fully aware of the equipment demand soon to be created by operations at Cayuga, the supply companies are ready to install branch stores, but are in a quandary as to where to locate same, as the field is isolated from rail facilities, and has poor highway facilities in wet weather.

Market outlet and transportation is not a problem for the production of the field as The Texas Pipe Line Company has a looped trunk line system cutting across the discovery lease, and other major trunk lines are reasonably close. The former is serving the field at present.

The only wildcat drilling in general vicinity of the Cayuga field is the Southern Henderson County test of Rector & Webb on the S. J. Riddlesperger 50-acre lease, W. F. Mitcham Survey. It is about seven miles north of production and is being followed closely, although the owners have been secretive with their information. Operations were temporarily halted late last week after reaching a depth estimated at 3810 feet, and the test was generally credited with being in Austin chalk. This would give it a structurally low position when correlated with wells at Cayuga.

Three new locations all outposts from production, have been ordered drilled by Tide Water and Texas Seaboard Oil Company on their Cayuga discovery block. Two of the locations were assigned the Wills tract with one in the most southerly southeast corner and the other in the northwest part of the tract. The third is to be in the southeast part of the Edens discovery lease.

W. A. WYVELL, 85, veteran oil driller, died at his home in Okmulgee on Saturday, April 7, and was buried at Claremore, Oklahoma, Monday, April 9. Wyvell had worked for Prairie Oil & Gas Company for many years but retired prior to the merger of that organization with Sinclair interests.

Van Field Given Increased Allowable

Austin, Texas.—The allowable for the Van field has been increased 5000 barrels per day for the next 30 days by an order issued by the Texas Railroad Commission on Thursday, April 12. As the order became effective on that date, the allowable of the field was raised to 42,500 barrels per day until May 12.

The order covers a 90 day period, and provides an average increase of 7500 barrels per day. During the second 30 day period the allowable will be 45,000 barrels per day, an increase of 7500 barrels above the previous allowance; during the final 30 days of the period the allowable is increased 10,000 barrels per day, or a total allowance of 47,500 barrels per day.

The commission stated that the order was issued as an emergency measure, and that a hearing would be held in Austin on April 26, at which time would be heard any protests.

A petition asking for the raise was presented by Pure Oil Company, which pointed out that its storage was exhausted, and that an additional supply of crude was required at once to enable it to continue the operation of its Smith's Bluff refinery. An increase of 12,000 barrels per day was asked.

The refinery, with a 25,000 barrel daily capacity, must be operated at the maximum to fulfill commitments, the petition alleged. Only one week's supply of gasoline was on hand when the petition was presented. Although the December runs averaged 24,878 barrels per day, they have dropped continuously since that time and during March the average was below 20,000 barrels.

Storage Oil from Long Lake Is Sold

Palestine, Texas.—Accumulated storage oil and current production of the two completed oil wells owned by Tide Water Oil Company and Texas Seaboard Oil Company in the Long Lake field, southwestern Anderson County, has been sold on contract to Republic Oil Refining Company, owner of a refinery at Texas City. Tidal Pipe Line Company has erected a small tank car loading rack at Long Lake, located on the I.&G.N. Railroad, with a short line connecting with the lease storage, to permit deliveries to the Texas City plant.

Three Failures in 77 East Texas Completions

Tyler, Texas.—An average of 11 completions daily was maintained in the East Texas field during the past week. This increase was anticipated as new locations have been exceeding completions for some weeks.

Three dry holes were included in the list of 77 completions. Two failures were on the west edge of the field in Smith County, while J. K. Wadley et al drilled their second duster on the northwest edge of production in Upshur County in carrying out an exploration campaign that was expected to prove up a lower sand immediately below the salt water zone in the field proper.

Venturing out into doubtful territory on the east edge of production in north Gregg County, the Dalport Oil Corporation, Dallas, and Max Rubin's Sam S. Bruton 1, NWc 104-acre tract, Sanchez Survey, made a 500-barrel pumper from broken sand at 3616-3617 feet, with a total depth of 3658 feet. This well failed to show any trace of oil saturation when drilled through the Woodbine section, and required a prolonged swabbing test to convert it into a producer. It is on a lease farmed out by Shell Petroleum Corporation. Dalport Oil Corporation, a new concern headed by Warren L. Todd, scored its first production with this completion.

Detailed list of completions in East Texas field for past week follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
Joiner Area—		
Bond Oil Corp., Eaton 1	8500	3753
Champlin-Bass, Inc. & Boren-Grelling, Pinkston (11-ac) 2	7000	3650
Barney Cockburn et al, I. Green 2	7500	3729
R. H. Dearing & Son, D. C. Joyner (7½-ac) 2	5000	3713
W. E. Farley et al, Gant (50-ac) 1	*	3786
G. M. B. Oil Co., D. Bradford 1	100	3610
H. H. Groneman et al, J. J. Denton-Sun (20-ac) 1	*	3735
Gulf, W. P. Keeling (40-ac) 5	7200	3730
Humble, W. L. Price (432-ac) 37	9500	3766

Company, Well and Location	Init. Prod. Bbls.	Depth
J. E. B. Sneed (104.7-ac) 10	8500	3781
Mattie Wooster (74.23-ac) 7	5500	3794
Hunt Prod. Co., H. C. Maxwell (108.52-ac) 14-A	11,000	3836
Manahan Oil Co., S. S. Cook (15.98-ac) 3	9600	3751
Mid-Kansas O&G Co., W. T. Grissom (842.7-ac) 69	9000	3660
Octo Oil Corp., W. H. Frederick 1	1000	3634
Pansy Oil Co., W. H. Frederick 3	450	3625
G. I. Reeves, Tr. et al, W. H. Reeves 1	300	3660
Sinclair Prairie, W. D. Kinney (579.2-ac) 49	9300	3658
Strickland & Mullins, Frank Cole (10.81-ac) 1	9000	3796
Texas Co., A. S. Jarvis (115-ac) 10-B	7000	3670
Wainwright-West Oils, Ltd., W. M. Camp (7½-ac) 3	750	3637
Kilgore Area—		
A. B. C. D. Oil Synd., J. L. McNeeley (17-ac) 4	11,000	3675
J. S. Abercrombie-Harrison Oil Co., Cantrell (56-ac) 11	10,500	3675
Atlantic, W. J. Brightwell (96-ac) 15	9000	3711
M. B. Hughey (100-ac) 9-C	7000	3549
M. B. Hughey (100-ac) 10-C	8600	3583
Arkansas Fuel Oil Co., Hughey-Ross (220-ac) 11	9100	3579
Barnsdall Oil Co., T. H. Gill-Shell (83-ac) 6	8500	3616
Byrd-Frost, Inc., J. B. Watson (22-ac) 2-A	9600	3617
Cordova-Union Oil Corp., C. O. Christian (63.73-ac) 2-D	4500	3669
Empire, C. O. Christian (103-ac) 11	9000	3770
Otto Lockhart (75-ac) 7	8800	3604
V. L. Taylor (40-ac) 5	8500	3708
Gulf, J. S. Elder (33¼-ac) 4	7000	3539
Angus Speer (183-ac) 27	5500	3571
C. H. Hall, Rec., J. D. Hall & M. C. Snowden, Kilgore School (1-ac) 1	8500	3742
Humble, W. D. Peterson (100-ac) 8	7200	3655
T. D. Humphrey et al, A. Speer (34.35-ac) 9	9800	3586
Hunter & Rowe, E. S. Still-Gulf (92.07-ac) 2	500	3576
Idaho Oil Co., C. M. Dickson (20-ac) 1	400	3578
Roger Lacy et al, T. J. Reynolds (22-ac) 4	500	3570
Lewis Prod. Co.-Selby O&G Co., Tom Bean (43-ac) 7	9600	3645
W. E. McKinney et al, J. C. Bradberry 2	9400	3693
Midway Pet. Corp., J. E. Lawther (35.35-ac) 5	5000	3590
Magnolia, Della Crim (50-ac) 9	9700	3645
Sells Petroleum, Inc., E. Sibley (24-ac) 5	10,500	3655
Shell, P. M. Bates (65-ac) 10	10,000	3580
M. H. Bivins (118.2-ac) 6-B	8500	3663
Texas Co., H. T. Elder (86-ac) 18	5500	3687
W. B. Tucker et al, Dorcas Wills (56-ac) 6	10,000	3658
Longview Area—		
Arkansas Fuel Oil Co., W. E. Bolton (53.73-ac) 2-A	3500	3533
J. D. Davis (30.8-ac) 2	7200	3605
Ann E. Lee (67.19-ac) 4	9600	3621
J. C. & R. S. McKinley (23.33-ac) 2-D	8500	3578
Dalport Oil Corp.-Max Rubin, S. S. Bruton (106-ac) 1	500	3658
E. & D. Oil Co., Tom Wells (51.4-ac) 7	8100	3711
Empire, J. C. Bumpass (68-ac) 10	9600	3565
Faith Oil Corp., J. J. Fuller (46.45-ac) 6	5000	3707
Fain-McGaha Oil Corp., Allen Tooke (100-ac) 10	9000	3640
O. C. Fisher & A. F. Dye, W. Starr (10-ac) 1	500	3590
General Crude Oil Co., R. Williams (62.54-ac) 7	7000	3645
Mary L. Georges et al, J. J. Lieck-Crosby (4½-ac) 1	7500	3680
Gibson Oil Corp., W. F. Smith (50-ac) 4	6000	3729
Lacy Petroleum Co., T. D. Anderson (13-ac) 4	9400	3629
John E. Mabee Consolidated Corp., C. C. Landers 2	10,400	3741
Magnolia, Laura Walker (22.68-ac) 3	9000	3642
J. H. Massie et al, J. W. Orr (36-ac) 8	9500	3669
Omega Oil Co., W. R. Nicholson (25-ac) 5	6500	3645
Sabinas Oil Corp., J. W. Falvey 5-A	9300	3729
Shell, J. Moore (369.9-ac) 26	9000	3567
Sklar Oil Corp., Anderson 4	3000	3585
Stanolind, J. B. Doby (19.77-ac) 6, Tr No. 1	8500	3504
Green-Amada (20-ac) 3	9000	3628
Tide Water, Lake Devernia (270-ac) 25	10,000	3567
Lake Devernia (270-ac) 26	9400	3567
J. K. Wadley & Stillers, Cobb-Flewellen (50-ac) 1.	*	3723
Yount-Lee, S. G. & M. Smith (56.65-ac) 9-C	8800	3568

Company, Well and Location	Init. Prod. Bbls.	Depth
East Texas Wildcats		
Smith County—		
Humble, H. C. Tucker 1	*	3885
Van Field—		
Pure Oil Co., B. W. Camper (55-ac) 4	250	2944
Shell Pet. Corp., E. L. Fowler (35.35-ac) 11	7200	2956
Anderson County (Cayuga Field)—		
Tide Water Oil Co.-Texas Seaboard Oil Co., N. W. Wills 2	10,000	4086

*Failures; †Junked; ¶Million cu. ft. gas.

Gray County Well Features Panhandle Completions

Pampa, Texas.—Sparsely developed acreage on the southwest edge of Pampa, Gray County, contributed a 200-barrel pumper last week when Edwin B. Hopkins, Dallas operator, Coleman and associates' W. B. Henry 1 responded to a shot of 200 quarts of nitro in dolomite lime formation at 3275 feet. This producer is on a 97-acre tract farmed out by Sinclair Prairie Oil Company on an over-riding royalty basis, and is located in the SWc E½ SW Section 114, Block 3, I.&G.N. Railway Survey. These operators have acquired a lease on an adjoining tract to the west, and have spudded a test in the SEc Section 127.

Magnolia Petroleum Company's John Haggard 1, located about one half mile to the southwest of the above new producer and in the SWc NW Section 113, encountered a tight lime condition in drilling below the expected pay zone to 3320 feet. This test is making about 400,000 cubic feet of gas and is estimated good for two barrels oil daily while standing by for a shot of 200 quarts of nitro in lime at 3290-3300 feet.

Combination Oil & Gas Company's E. B. Johnson-Gulf 1, located in prolific section of the Johnson ranch, Hutchinson County, and southwest of Borger, increased its potential rating from 396 barrels to 900 barrels daily after deepening from 3050 feet to 3081 feet. It is located in the SEc NW SW Section 34, Block Y, and was originally completed in June, 1932, flowing 535 barrels daily on gas-lift. The largest flowing wells in the county have been coming from this area during the past year, but lease owners have been taking their time in drilling up their holdings.

A new oil producer for the Woodley pool, an isolated oil and gas field in southeastern Wheeler County, was in process of completion last week when the Piney Oil & Gas Company's J.

Mankins 1, SEc W½ SE Section 54, Block 13, H.&G.N. Railway Survey filled 900 feet with oil after drilling out cement plugs to 2205 feet. It is a north offset to Remo Oil Company's Sloss-Admire 1, which made 430 barrels initial last February at 2190-2200 feet. The latter has contracted to deliver 5000 barrels of crude monthly via tank cars, the only means of transportation for the area, to the Lubbock Refining Company's skimming plant at Lubbock, Texas.

Four completions, all oil producers, were completed in the Texas Panhandle during the past week, with an aggregate of 1040 barrels of new potential. Completions follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
Gray County—		
Dixon Creek Oil & Royalty Co., W. C. Archer 6	455	3225
Ed. B. Hopkins & Coleman, W. B. Henry 1	200	3275
Hutchinson County—		
Dixon Creek Oil & Roy. Co., W. B. Haile 2	150	3032
Stanolind O. & G. Co., H. C. Pitcher 3-B	235	3120

*Failures; †Junked; ¶Million cu. ft. gas.

Nine Completions In West Texas

San Angelo, Texas.—Three wildcat failures were included in the list of nine completions recorded in West Texas during the past week. These dry holes were drilled in Jones, Crane and Ward Counties.

West Texas completions for the past week follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
Crane County—		
C. C. Duffey et al C. L. Brown 1	*	4330
Fisher County—		
Stanolind O. & G. Co., J. Steele 3	635	3192
Glasscock County—		
Empire Gas & Fuel Co., G. T. Hall 2-A	1140	2123
H. O. Wooten et al S. Turner-Shell 1	1750	2180
Jones County—		
Knight-Baker & Pardue, Roy Riddle 1	*	1890
Ward County—		
Alpine Oil & Dev. Co., M. L. Johnson 1	*	2250
Atlantic Oil Prod. Co., W. D. Johnson 13	120	2533
Gulf Prod. Co., G. W. O'Brien 43	300	2748
Stanley A. Thompson et al, Johnson-Sun 7-A	150	2534

*Failures; †Junked; ¶Million cu. ft. gas.

North Texas Completions Reach New High

Wichita Falls, Texas.—The weekly quota of completions in North Texas reached a new high mark for the present year during the past seven-day period, when field reports accounted for 54 producers and dry holes. There were 33 pumping and flowing wells in the group, with an aggregate of 3377 barrels of new production. Except for a single pumper drilled by The Texas Company in Wilbarger County, all completions were made by independent companies and operators.

Use of core drill equipment for testing wildcat and semi-proven leases in the shallow oil district continues popular with the operators. Shappell Oil Company's J. R. Jones 1, SWc Block 153, Harris Subdivision, Archer County, used this type of equipment in drilling to saturated lime at 1194-1202 feet. A string of three-inch casing was cemented at 1194 feet, and the well earned an initial production of four barrels oil per hour on pump after being treated twice with acid.

Detailed list of completions in North Texas for the past week follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
Archer County—		
Bonner Oil Co., C. L. Abercrombie 4	55	1210
Cullum & Alexander, Falls-Gulf 11	300	1122
Fain-McGaha Oil Corp.-Humble O&R Co., Logan 18	100	1163
Logan 19	350	1129
Logan 20	100	1146
Logan 21	500	1145
Golding-Cochran, Lauster 5	130	1332
G. A. Lauster 6, Sec. 2	160	1321
Perkins-Farmer 3-B, Blk. 26	75	1497
Perkins-Farmer 4-B, Blk. 26	30	1497
W. B. Hamilton et al, C. W. Coffield 13	175	1219
W. S. Ikard 12	60	1141
Horwitz & McDaniels, S. M. J. Benson 5, Sec. 1808	*	1015
S. M. J. Benson 6, Sec. 1808	*	960
W. T. Hutcheson et al, L. H. Tarr 1, Blk. 136	*	1397
Kriss & Buzzard, Hughes 4	*	701
C. B. Long et al, W. J. Logan 6, Blk. 23	240	1156
Chas. Martin et al, E. Sheckels 2	3	1199
N. H. Martin et al, A. Pastusek 1, Blk. 17	*	1575
Pace et al, Arnold 8	75	1259
Pacific & Atlantic Oil Synd., Krupka-Richardson 1, Blk. 19	*	1302
Perkins-Cullum Oil Co., Falls-Boyles 16, Blk. 7	50	1176
Falls-Boyles 17, Blk. 7	65	1179
Falls County 5-B, Blk. 21	70	1121
Pois & Shultz, Archer County 1	75	929
Jack Reynolds et al, C. A. Mangold 1	*	675
Ross Robertson et al, Ward 3	*	939
Shappell Oil Co., J. R. Jones 1, Blk. 153	90	1202
Simms Oil Co., Perkins-Farmer 1-C, Blk. 11	*	1505
Skeen & Barclay, W. T. Coffield 2, Sec. 1	20	1165
Staniforth & Ray, Wilson 2	125	1610
Underwood & Consolidated Oil Co., Ward 4-C, Sec. 1382	100	968
Jack County—		
Petroleum Producers Co., J. H. Wallace 1	*	550
J. L. Slusher et al, First Nat'l Bank (Dallas) 1	*	610
Star Drlg. Co., J. T. Hunt 1	*	550
R. H. Vise et al, J. R. Moore 1	*	510
Montague County—		
Bridwell Oil Co., Loy 2-B	*	1861
Wichita County—		
Burns & Long, Cline-Gauntt 20	*	945
Golding & Cochran, J. & J. Waggoner 2	*	1918
Pet. Producers Co., Allen-Kemp 31, Blk. 28	*	1763
Wilbarger County—		
The Texas Co., W. T. Waggoner 9-D	40	2374
Luther Webb et al, Waggoner 1-D	65	2368
Young County—		
Christie Bros. et al, Jeffrey 1	150	3897
W. B. Douglas et al, Finch 1	25	659
M. Farmer et al, G. P. Stewart 1	*	601
Holbrook & Woods, F. M. Cullers 14, Blk. 19	5	553
J. H. Kleiner et al, J. M. Kirkland 2, Sec. 2249	35	722
Pet. Producers Co., Belknap 9, Sec. 21	50	960
Pitzer & West, W. W. Haggard 1, Sec. 470	*	4082
T. G. Shaw et al, Marshall 5, Sec. 3401	*	988
Texas Plains Oil Co., J. R. Garvey 6-A, Sec. 1856	15	755
L. A. Wilkins et al, J. D. Lowe 9, Sec. 250	30	639
E. D. Willis et al, J. Ledbetter 1, Sec. 2248	14	606
D. L. Wolf et al, J. B. Mars 1, Sec. 356	*	580

*Failures; †Junked; ¶Million cu. ft. gas.

Texas Operators Secure Permits to Drill 217 Tests

Austin, Texas.—Archer County had 32 of the 117 permits for new wells issued in Texas last week, while Rusk and Gregg Counties in the East Texas field had their customary dominance.

Details of permits for the week follow:

In Archer County the following permits were granted: C. W. Carey, Wichita Falls, F.C.S.L. 4 (50-ac), FC SL Survey, Block 4, 200 feet from south and 1230 feet from east line of lease. Perkins-Cullum Oil Company, Wichita Falls, E. R. Boyles 18 (101-ac), FCSL Survey, Block 7, 533 feet from north and 363 feet from east line of lease; H. C. Hanszen 17 (179-ac), FCSL Survey, Block 14, 849 feet from west and 600 feet from south line of lease; F.C.S.L. "B" B-7 (101-ac), FC SL Survey, Block 21, 550 feet from north and 600 feet from east line of lease. Fain-McGaha Oil Corporation and Humble Oil & Refining Company, Wichita Falls, W. J. Logan 22 (320-ac), J. M. Taylor Survey 26, 200 feet from north and 1200 feet from east line of lease; No. 23, 200 feet from north and 700 feet from east line of lease. The Bonner Company, Wichita Falls, Abercrombie "E" 2 (76-ac), Club Ranch Survey, 200 feet from west and 233 feet from north line of lease. Rathke Oil Company, Wichita Falls, Benson "A" 2 (40-ac), TE&L Survey, Block 1808, 514 feet from north and 150 feet from east line of lease. Continental Oil Company, Wichita Falls, F.C.S.L. "D" 9 (51-ac), FCSL Survey, Block 13, 550 feet from east and 532 feet from north line of lease; No. 8, 200 feet from west and 522 feet from south line of S½ of block. W. C. Young, Archer City, Mrs. L. A. Foster 3 (80-ac), Hooper & Wade Survey 2, 550 feet from south and 150 feet from west line of SE¼ of section. C. B. Bailey & H. M. Kelleher, Wichita Falls, Abercrombie & Taylor 1 (160-ac), Club Ranch Survey, Block 12-13, 150 feet from north and east lines of lease. R. H. Busby, Megargel, J. L. Anderson 1 (55-ac), South Anderson Ranch Survey, Block 18, 150 feet from north and east lines of lease. Golding & Cochran, Dallas, T. B. Wilson 1, S. P. Ellis Survey 2, 1470 feet from north and 1170 feet from west line of lease. L. T. Burns, Wichita Falls, L. F. Wilson R-6 (120-ac), ATNC Survey, Block 108, 300 feet north of No. R-5. L. T. Burns and C. B. Long, Wichita Falls, L. F. Wilson R-7 (120-ac), ATNC Survey, Lot 2, Block 108, 140 feet from west and 750 feet from south line of lease. W. L. Hawkins, Wichita Falls, H. V. Pearston 1 (80-ac), Club Ranch Survey, Block 104, 150 feet from south and east lines. L. F. Hooker et al, Wichita Falls, W. M. Justice 1 (10-ac), W. H. Patton Survey, Block 4, 150 feet from west line and north of south line of lease. Panhandle Refining Company, Wichita Falls, I. L. Churchwell et al 1 (120-ac), Club Ranch Survey, Block 145, 1620 feet from west and 450 feet from south line of lease. Amended location: Perkins-Cullum Oil Company, Wichita Falls, Titkin 15, FCSL Survey, Block 13, 485 feet from north and 548 feet from west line of lease. Fain-McGaha Oil Corporation, Wichita Falls, F.C.S.L. 4 (25-ac), FCSL Survey, Block 16, 600 feet from west and 200 feet from south line of S½ of N½ of lease. Bridwell Oil Company & Continental Oil Company, Wichita Falls, W. J. Logan et al 7 (220-ac), J. M. Taylor Survey, Block 25-26, 200 feet from south and 2005 feet from west line of lease. Underwood Drilling Company, Wichita Falls, Underwood & Campbell "B" 1 (400-ac), TE&L Survey 1383, 200 feet from north and 1700 feet from east line of lease. Consolidated Oil Company, Wichita Falls, J. H. Turbeville 1-A (202-ac), Club Ranch Survey, Block 37, 1200 feet from west and 1000 feet from north line of lease. The Texas Company, Olney, W. R. Farmer 4 (50-ac), BCSL Survey, Block 31, 200 feet from south and west lines of lease; W. J. Logan 1 (70-ac), J. M. Taylor Survey, Block 23, 550 feet from south and 200 feet from east line of lease. W. B. Hamilton, Wichita Falls, W. S. Ikard 13 (174-ac), J. Webb Survey 14, 600 feet south of No. 10; C. W. Coffield 18 (400-ac), J. Levin Survey, 300 feet from north and 1050 feet from west line of lease. Kelley & Everett, Wichita Falls, Hooper 1 (40-ac), Hooper & Wade Survey 1, 150 feet from north and east lines of lease. Sun-Tex Oil Corporation, Olney, W. Justice Estate 1 (10-ac), W. H. Patton Survey, 150 feet from north and east lines of lease. H. W. English, Ft. Worth, J. Turbeville 2 (80-ac), JCSL Survey, Block 61, 150 feet from south and 780 feet from west line of S½ of lease. Schulz & Weaver, Wichita Falls, F. C. Green 20 (160-ac), J. Levins Survey, 1350 feet from west and 265 feet from south line of lease.

In Atascosa County the following permit was granted: Texas Petroleum Company, San Antonio, T. W. Masterson 2 (66-ac), G. N. Mott Survey 386, 480 feet from north and 290 feet from east line of lease.

In Austin County the following permit was granted: Gem Oil Company, and Johnston and Johnston, Houston, W. Haedge 1 (80-acres), S. F. Austin Twn. Tr. Survey 18, Block 1, 330 feet from NW and SW lines of lease.

In Bastrop County County the following permits were granted: R. R. Ogden, Austin, T. W. Snowden 1 (59-ac), J. Standifer Survey, 300 feet from north and 255 feet from east line of lease. Cole Petroleum Company, Laredo, Cole 5 (700-ac), R. Gage Survey, Block 29, 300 feet SW of No. 4.

In Bee County the following permit was granted: Heep Oil Corporation, Houston, J. C. Wood 1 (25-ac), P. Crain Survey, 521 feet from north and east lines of lease.

In Bexar County the following permits were granted: Van Duyn & Volz, San Antonio, J. F. Schlather 1 (361-ac), A. A. Gardiner Survey, 285 feet from west and 2300 feet from north line of lease. Trio Oil Company, Seguin, L. Sendemer 9 (109-ac), A. Manchacha Survey, 450 feet west of No. 8.

In Brazoria County the following permits were granted: Shell Petroleum Company, Houston, M. Gubert 1 (32-ac), C. O'Donnell Survey, 200 feet from north and east line of lease. The Texas Company, Houston, A. Cascio 1 (14-ac), HT&B Survey 74, 200 feet from west and 330 feet from NE line of lease.

In Brown County the following permit was granted: W. H. Earle, Tr., Waco, J. Byler 1 (10-ac), T&NO Survey 43, 150 feet from west and 310 feet from south line of lease.

In Caldwell County the following permit was granted: J. E. Mills, Fort Worth, E. Johnson 1 (60-ac), J. Pinchback Survey, 170 feet from NE and 1126 feet from SE line of lease.

(*Continued on page* 177)

Greta Field Extended Westward

San Antonio, Texas.—Blanco Oil Company and Dash Production Company's J. M. O'Brien 1-C, southeast corner of a 400-acre tract in E. H. Winfield Survey, Greta field, Refugio County, was flowing by heads late in the week from a total depth of 4397 feet. The well provides a west extension to the field of about one quarter of a mile and indicates a structural flattening in a westwardly direction, which may bring about the development of considerable more acreage in that area.

The well was being brought in through circulation method, hence it was slow in responding. In addition, the casing was set in the sand at 4387 feet to cut off the upper gas pressure. It, however, had built up 725 pounds pressure on the casing and likely would be flowing steadily within a day or so.

Humble Oil & Refining Company's Fannie Heard 2, N. S. Crunk Survey, on the east side of the field, failed to open a sand at 5449-59 feet, where it showed oil and casing was set. When swabbed in, it developed salt water and is now drilling at 5550 feet.

Several wells are on the sand in the field. Floboots Oil Corporation's J. M. O'Brien 3-C, Block 10, Winfield Survey, set casing at 4364 feet, total depth 4383 feet, and is waiting on cement; Humble's Fannie Heard 3, Ximines Survey, set seven-inch at 4360 feet, and is running liner at a total depth of 4385 feet; Humble's J. F. Welder 2, Winfield Survey, extreme north end of the field, apparently is a failure in the regular sand, having reached 4485 feet and still drilling. Stanolind is waiting on cement at 4385 feet after setting casing at 4373 feet in J. M. O'Brien 5-B, Block 24, Peoples Survey.

An interesting completion of the last week was Stanolind's T. O'Conner 1, N. S. Crunk Survey, southeastern portion of the field. It was originally completed on December 6, last, as a 320-barrel producer, showing a tremendous amount of gas through ¼-inch choke at 4392 feet. It later went to gas and was shut in. It was worked over on April 7 by setting a formation packer at 4376 feet. It flowed dry gas the first two days, showing 1540 pounds on the tubing and 1275 pounds on the casing through ⅛-inch choke. On April 9, on ¼-inch and ⅛-inch chokes, it flowed 21 barrels in 18 hours; April 10, same chokes, 44 barrels in 24 hours; and on April 11, 156 barrels in 24 hours on the same size chokes.

C. B. Bunte is preparing to start up on Rooke 2, just south of Woodsboro, in De la Vina Survey. Location has been made for Rooke 3, two miles south and a little west of No. 2, and it will be drilled shortly. Holland and Heard's Peck 1, Section 24, started up, cored two feet of sand at 4524-26 feet, presumably the Greta sand, and shut down again. These wells are in the Bonnie View area.

Humble has spudded in its M. V. O'Conner 13, Keating Survey, in the McFadden-O'Conner area of eastern Refugio County.

Tivoli Oil and Gas Company is drilling below 2635 feet in G. W. Bissett 1, John Crockett Survey.

New Locations for Government Wells Trend

San Antonio, Texas.—Several more new locations have been announced for the Hagist 30,000-acre ranch in southern McMullen County and on the Government Wells trend.

Al Buchanan's Hagist 1, NE NE Section 18; Lefevre & Spice's Hagist 2, Section 17; W. C. McBride, Inc.'s E. R. Hagist 1, S SE Section 1, are to be drilled immediately. In the same general area, R. E. Cotulla et al's Mary A. Gordon 1, Section 127, is down 700 feet; L. O. Gleason et al's Miles 1, Charles Stephanes Survey 76, is a location; Henshaw Brothers' LaChusa 1, Section 478, is spudding. C. C. Shumway, Inc.'s Shiner Ranch 4, Section 38 of Shumway Subdivision, Brewer Survey, has been abandoned at 1962 feet after topping the Pettus sand at 1911 feet and showing salt water. Location has been made for five in Section 66.

Among the other wells in the county, Bridwell Oil Company is preparing to complete Brown 3, total depth 774 feet. C. A. Hall is down 950 feet in H. L. Lark 1, E. W. B. Scrugham Survey. Jane Oil Company is coring for the sand around 1000 feet in Lark 1, Block 13, E. W. B. Scrugham Survey. Kennon et al's Lark 1, Block 27, Scrugham Survey, is recompleting at 1070 feet. Magnolia Petroleum Company's Kincaid 1, A. Cincent Survey, is drilling at 4045 feet. Texio Oil Company's L. Jacob 1, W. D. Benham Survey, is completing at 903 feet; Two Rivers Ranch 1, Section 81, is drilling deeper after setting surface casing.

Drilling Active in Government Wells Area

San Antonio, Texas.—Twenty-five active operations were reported in the Government Wells-Sarnosa area, Duval County, as the week closed. Several of them were in semi-wildcat locations and their outcome was attracting considerable attention.

Southwest Drilling Company's C. W. Hahl 1, SE SE SW Section 56, one mile west of the field, topped the Cole sand at 1497 feet, considered just about right and was drilling below 2000 feet. It was due to pick up the Government Wells sand slightly below 2100 feet. Jones and Carragy's J. W. Kidd 1, exactly one-half mile east and in the same section, was drilling at 950 feet, and expected to pick up the Cole sand around 1500 feet.

On the opposite side of the field, Magnolia Petroleum Company's L. B. Moody 1, northeast corner of the CB&CNG Company Survey No. 60, was drilling at 1600 feet. It is being watched as a possible widener to the field on the east. The other wells are more or less routine, being drilled on inside locations or offsets to producing wells.

L. & R. Oil Corporation's Webb 2, just west of the center of the east line of Section 41, and on the west side of the field, is waiting on cement after coring five feet of saturated sand at 1542-47 feet. It is in the Cole sand and should it make an oil well, it will be the first oil production in the field from this level. The first well drilled in the North Government Wells area was completed as a Cole sand gasser at 1563 feet, and recently the Sun Company completed a gasser in the same sand on its L. Weiderkehr lease in Section 362 to supply its lease with fuel.

Cecil Bess' A. Parr et al, wildcat in Section 131, 10 miles west of San Diego, was last reported drilling around 1000 feet. Bridwell Oil Company's J. F. Welder Heirs 1, Section 102, north of Government Wells field, is waiting on cement after running 102 feet of surface casing. Buffalo-Texas Drilling Syndicate, Inc.'s Escobar 1, San Francisco survey, Share 6, is resuming drilling at 2200 feet. Chiquita Oil Company's Richardson 1, Section 454, is drilling below 1200 feet. Clark and

Cowden made a 4,000,000 cubic foot gasser in Richardson 1, Section 3, Block 1, after pluging back to 1758 feet from 1779 feet. Continental Oil Company's R. Driscoll Estate 1-A, Section 488, southern portion of Driscoll pool is a disappointment so far. It has had a series of salt water sands, the last being at 3272-3306 feet. It is now drilling at 3390 feet. O. W. Killam has abandoned Wood-Welder 5, Section 102, east of Eagle Hill field, after testing salt water at 2482-88 feet. The total depth was 2512 feet. 2Kot-Oil Company's Lundell 3, Section 48, western portion of the Government Wells field, is abandoned at 2427 feet. It had a nice series of sands from 2218 to 2250 feet, but could not develop production, G. G. Mortimer's W. R. Peters 1, Section 176, one half mile east of the North Kahler field gassers, topped the Mirando sand at 2697 feet, showed salt water, and is being plugged to the Government Wells sand at 2542-65 feet, where it showed for a gasser. Motes-Campbell Company's S. Benavides 1, Block 493, Arispe Grant, failed to make a producer at 2895 feet and has been abandoned. A. H. Richardson's C. O. Drummond Estate 1, R. V. Allison survey No. 392, six miles northeast of Eagle Hill, tested 18 thribles of salt water in 10 minutes in the Government Wells sand at 2301-18 feet and is drilling deeper. Windsor Oil Company is coring at 2220 feet in W. R. Peters 1-B, Section 34. It is in the North Kohler district.

Important Eagle Hill Deal Is Consummated

San Antonio, Texas.—A deal involving 820 acres and three producing wells in the Eagle Hill field of north Duval County, has been completed between the SR & C Oil Corporation and the Eagle Hill Oil Corporation, both of San Antonio. The transaction calls for the immediate drilling of 12 wells to the Cole and Government Wells sands, both of which are producing oil in the field.

The consideration was not announced, but it was stated that both oil and cash payments were involved. By virtue of the deal, the SR & C Oil Corporation, which acquired a one half interest in these leases, is to drill 12 free wells. Upon the completion of this contract, the remainder of the development is to be on a 50-50 basis, the SR & C bearing any cash outlay and being reimbursed through the production of oil.

Eagle Hill Oil Corporation owned from 75 to 90 percent interest in the acreage prior to the deal, Al Buchanan owning the remainder.

The properties involved were 160-acre Duval Ranch tract, being S½ N½ Section 206; E. R. Hagist tract, 160-acre, SW¼ Section 269; three J. R. Foster tracts totaling 500 acres, being S½ S½ Section 270; S½ of W 200 acres of S½ Section 206; and S 240 acres of N 400 acres Section 270. A large part of the land is in proven territory and a part of it is in likely producing area. The discovery well is located on one of the tracts in the transaction.

The first two wells to be drilled under this contract are on the sand, one being a 150-barrel producer and the other having set pipe and waiting on cement. Both are in the 1500-foot Cole sand.

DeWitt County Test Due To Pick Up Cockfield

San Antonio, Texas.—Humble Oil & Refining Company's C. H. Kuester 1, SA & MG RR Survey No. 7, Block 7, in De Witt County, drilling at 5430 feet in shale. It has encountered several interesting sand bodies, but all tested salt water.

On the Goliad County line, Slick-Seeligson Corporation is drilling Poetter 3, Marshall Survey, at 4488 feet. It failed to get the Pettus sand and is now at about the level to pick up the Cockfield.

New South Texas Wildcats Started

San Antonio, Texas.—New wildcat locations were spotted in many sections of South Texas, including a string of new wells to be drilled along the Mirando trend all the way from the Mexican border into northern Live Oak County. The fault zone, Hill country, and coast sector, likewise, shared in new operations.

American Liberty Oil Company and G. J. Greer's Dietzel 1, J. Smith Survey, Block 4, Lot 34, has been spudded. It is in Aransas County.

Charles Anderson is to give acid treatment to Pendergrass 1, H. Warnell survey, Bastrop County, the depth being 1815 feet. Chiquita Oil Company's B. L. Duran 1, L. Flynt survey, is a derrick. Hiram Edward's Smith 1, A. Litton survey, is shut down at 1700 feet. Marts and Beavens' Lucy George 1, G. Glasscock survey, is below 1250 feet. R. R. Ogden is drilling at 535 feet in T. N. Snowden 1, J. Standifer survey. Watt L. Sanders, Trustee, is in hard shale at 2003 feet in A. Harris et al, J. Maximillian survey, block 436.

Ceaser Oil Company likely will

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abandon C. E. Pullian 1-A, F. Lewis Survey, Bee County. It has surface pipe set crooked at 300 feet. The rig will be skidded over and a new hole drilled. Edwin Faley is reported to be moving in for J. B. Borroum 1, G. Brown survey. Howeth, Swiger & Jones' John R. Scott 1, Block 30, Uranga Grant, is drilling at 2510 feet. Phillips Petroleum Company is drilling T. P. Morgan 1, H. E. Eyles survey, at 4454 feet.

I. L. Dingman and Russell Leasing Company have more showings in their R. J. Coffey 1, F. Rodriguez survey, Block 4005, Bexar County. The well topped the Eagle Ford at 1268 feet and Buda at 1293 feet, and is at 1325 feet, showing considerable oil. Liner will be set at the total depth and the well tested. The well originally made a gasser at 1034 feet in the Austin chalk, but was killed to drill deeper. H. F. Flowers, Trustee, is preparing to resume drilling on E. B. Carruth 2, F. Rolen survey, down 740 feet. S. J. Moore is drilling Masterson 4 at 675 feet. George L. O'Neill's Neimann 1, J. Montez Survey No. 6, at 1255 feet, has set 5-3/16-inch casing at 1158 feet. N. S. Powell et al will set casing to test a showing of gas at 630 feet in M. Sanner 1, Ruiz Survey No. 47. Trawalter et al's Trawalter 2, S. Jett Survey No. 53, made a 14,000-foot gasser at 755-67 feet. Van Duyn, Poole & Volz's Schlather 1, A. Gardanier Survey No. 56, is in sand at 628-35 feet, where casing has been set. A. A. Weitzel's Fee 1, F. Richardo survey, is shut down at 1500 feet in lime.

S. S. Cargill's W. Damerau 2, D. Cooper survey, Caldwell County, was last reported below 2160 feet. Bob Keene et al's W. Ewald 1, James George Survey, is drilling at 1140 feet. Joe Mills et al's E. Johnson 1, J. Pinchback survey, encountered a showing of oil in rotten lime at 1860 feet and is setting casing. H. J. Porter et al's A. Carter 1, G. Pace survey, is a derrick.

Part of the machinery is on the ground for Love and Evans' S. Brown 1, Section 66, Block 6, GWT&P Survey, Edwards County. It is down 3002 feet, but is to be drilled deeper.

J. E. Clark has derrick up for Howell 1, just east of Darst Creek in Guadalupe County. Holderfield et al's Reed 1, Hunter survey, is rigging up. O. W. Killam is drilling at 600 feet in Max Blume 1, J. G. King survey.

Union Sulphur Company's American Rio Grande Land and Irrigation Company 1, Block 59, Lot 2297, North Capisallo District in Hidalgo County, is drilling at 2304 feet. Woods et al's Flores 1, tract 250, Share 14, Porcion 41, is building derrick.

Encino Gas Company's T. E. Toney 1, Ramon Musquez Grant, is drilling at 5200 feet. John T. O'Neill et al's J. R. Davis (LaWard Farms) 1, Block 93, I&GN Survey 18, is drilling deeper after coring a sand at 5408-10 feet, which showed a little oil. Both are in Jackson County.

A. W. Major's M. Guerra & Son 1, W. J. Wheeler Survey 693, in Jim Hogg County, is shut down at 2586 feet.

Magnolia Petroleum Company is building derrick for A. A. Seeligson 3, V. Canales survey, Jim Wells County. Putnam and Bode's McCarley 1, Casa Blanca Grant, is drilling at 1104 feet. C. H. Robertson is drilling around 500 feet in C. Muil 1, Section 205.

G. A. Ray has spudded in Mrs. S. E. Radford 1, M. Nichols survey, Karnes County.

J. E. Pederson's C. A. Turner 1, David Hudson survey, Lee County, is rigging up.

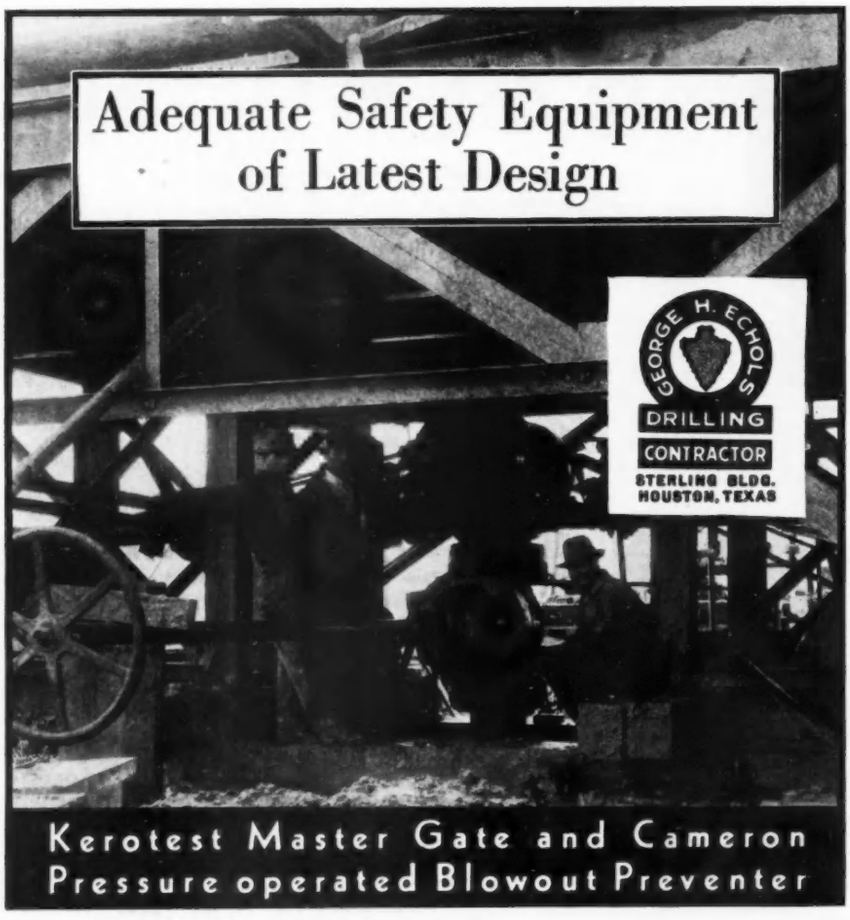
Loma Oil Company is completing L. Jacob 24-A, W. H. Jacob survey, Live Oak County, at 1057 feet; 25-A same section, is spudding. C. L. Witherspoon has commenced drilling W. J. Marbach 1-A, Block 15, Claunch Ranch survey.

Scoggins and Sanders are shut down at 730 feet in L. W. Burrell 1, M. E. Gage survey, Medina County.

In Nueces County, Clymore Production Company is down 2500 feet in J. C. Ingram 1-A, R. Peters survey 6, Lot 5. Diadem Oil Company is preparing to move in machinery for J. C. Mayo 1, Section 23, Driscoll Ranch. Derrick is up. Nutex Oil Company is drilling at 4620 feet in hard shale and lime in King 1, Section 24, King Farm lots. Petrol Corporation's Bluntzer 1, J. V. L. de Herrera survey, is drilling below 2000 feet. Southern Minerals Corporation's Page 1, Section 8, Range 5, tested five fourbles of oil and 75 pounds pressure through ¼ inch choke in five minutes from 4073-79 feet and is preparing to complete. Sullivan-Texon Royalty Company's Simmonds and Perry 1, Puenticitas Grant 8, is fishing at 4228 feet. United Production Corporation is preparing to drill in Ollie Purl 3, Section 6, Block 3, Subdivision 2, which is at a total depth of 4805 feet. Same company is starting C. P. Talbert 2, W. R. Peters Subdivision, Lot 9, Section 4.

H. J. Heartwell's M. S. Perry 1, Section 175, Real County, is drilling at 780 feet.

Edmiston et al have made a location



in Section 1439, Kerr County, also in the hill country for a deep test.

Accumulative Royalties Company's Martin 1, Section 271, Starr County wildcat, is waiting on gasoline rig at 2865 feet. Charles Andrus and Borah are resuming drilling below surface casing in A. Guerra 1, San Jose Grant. Hewitt and Dean Brothers' M. M. Garcia 1, Section 918, spudded and set surface casing. Danvers and Harrison Oil Company has spudded in O. Rogan 1, El Javali Grant. Goodwin & Yantis have spudded in Kelsey Bass 4-A, Block 4, Porcion 86-87. W. W. McDonald et al's C. C. Bowman 1, Section 888, is rigged up. Derrick is up and pits dug for Weekly Oil Company's Starr County Cattle Company 1, Block 12, Porcion 89. Sioux Oil Company's Goodrich 6, Block 3, Tract 5, Porcion 81, is waiting on cement after setting casing over the sand at 1375-86 feet.

T. T. Word's Truelove 1, H. Elam survey, Uvalde County, is drilling at 300 feet. It caved at 267 feet and lost returns.

C. R. & G. Drilling Company's R. C. Roos 1, M. A. Castanon survey, has derrick up and is moving machinery for a test to be drilled three and one-half miles northwest of Keeran field, Victoria County.

Webb County

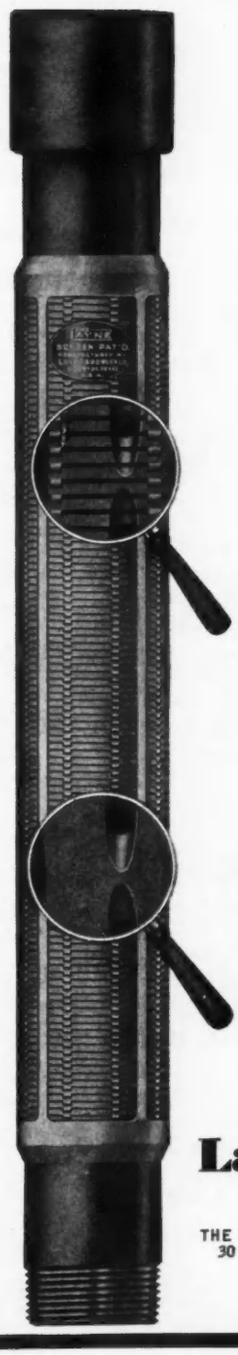
Bruex Oil Company's Cuellar Brothers 1, Share 1, Section 2329, Webb County, is drilling at 1000 feet. Cole Petroleum Company is below 2000 feet in R. Benavides 84, Block 2, Section 412. French Oil Corporation has spudded in S. Benavides 1, Section 706. L. E. Lockhart is drilling E. Eikel 1, Section 1672. It is below 1600 feet. D. E. Megahan's Gowdy Heirs 1, J. F. James survey, is drilling at 4000 feet. Weekly Oil Corporation's R. Saldiver 1, Section 657, is rigging up. South Texas Oil Company's Laurel Brothers 11, Block 4, Section 270, is drilling at 2320 feet.

Atlantic-Pacific Corporation's W. C. Daniel 1, W. P. Reese Survey No. 3, in Williamson County, has been shut down at 640 feet. Taylor Refining Company's Dabney-Bass 2, H. White survey, is waiting on cement after setting casing at 698 feet.

Allied Oil and Gas Company will commence shortly on Gutierrez 41, Share 4, Comitas Grant, Zapata County. Danvers and Harrison Oil Corporation's G. Trevino 1, Share E, Charco Redondo Grant, is drilling at 600 feet. Kleiner and Hill are drilling in Gutierrez 8, Share 4, Comitas Grant, the depth being 1241 feet. O. W. Killam is down 1600 feet in A. M. Bruni 8, Block 23, Borrego Grant; M. Guerra 32-A, Cerrito Blanco Grant, is drilling at a shallow depth. R. B. Morrison has a location for a well on the Los Burros Ranch in Block 4, Porcion 19. Joe Palmer is moving in rig for S. Vela 1, Share 4, Gullo Grant. Texas Company is completing Whitehead (Jennings) 44, Cerrito Blanco Grant, at 1191-1212 feet.

Frio County Test Expecting Edwards Lime

San Antonio, Texas. — The Edwards lime is expected to be picked up shortly in Humble Oil & Refining Company's C. B. Woodward 1-A(2), wildcat in the extreme northwestern corner of Frio County. It topped the Austin chalk at 2135 feet and went out of the formation at 2481 feet. It has the top of the Buda at 2560 feet and the Del Rio at 2662 feet. It is in the latter formation at 2740 feet. The well had a section of dry serpentine at 1783-1909 feet.



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■ Griffin No. 2, in the Livingston field, drilled by Haynes B. Owenbys Drilling Company, was finished at 4335 feet, with 60 feet of Layne and Bowler Milled Groove Screen. This well, the largest producer in the field, is flowing freely through this famous screen.

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South Texas Completions Include Wildcat Failures

San Antonio, Texas.—A number of South Texas wildcats were taken out of the picture as possible openers of new oil fields when they were abandoned during the past week. They were generally distributed through South Texas.

Company, Well and Location	Init. Prod. Bbls.	Depth
Bastrop County—		
Charles E. Anderson, R. M. Trigg 1, J. Stewart Sur. ..	8	1795
Chiquita Oil Co., A. H. Hanna 1, J. Gray Sur.	*	2442
Marts & Beavens, R. L. Carter 1, G. J. Glasscock Sur.	*	2520
Bexar County—		
F. Perrenot et al, W. Russell 1, Rodriguez Sur.	*	1298
Trawalter et al, A. J. Trawalter 2, S. Jett Sur.	¶	767
Caldwell County—		
F. J. Adams et al, S. G. Cole 1, A. Tinney Sur.	*	2967
Duval County—		
Central Producers, Inc., Luptack 1, Sec. 41.....¶10-50		2317
Clark & Cowden, Richardson 1, Blk. 1, Sec. 3, PB 1758	¶4	1779
Cox & Hamon, State 7, Sec. 60.	150	2250
DeLange et al, A. Lundell 5, Sec. 60	360	2252
Humble, Paul White 20, Sec. 58, ¾ choke	300	2269
O. W. Killam, Wood-Welder 5, Sec. 102	*	2512
Kot Oil Co., Lundell 3, Sec. 48	*	2427
Motes-Campbell, S. Benavides 1, Blk. 493, Arispe Grant	*	2895
Reed & McKay, State 3, Sec. 60, ¾ choke 1440		2266
Reynosa, Duval Ranch 6-B, Sec. 363, 9/16 choke	384	2278
Russ Pet. Co., C. W. Hahl 7-A, Sec. 46	45	2279
Sun, L. Weiderkehr 44, Sec. 359	150	2263
L. Weiderkehr 45, Sec. 359, ¾ choke	768	2283
L. Weiderkehr 47, Sec. 359, ¾ choke	720	2261
L. Weiderkehr 49, Sec. 359, ¾ choke	408	2278
L. Weiderkehr 51, Sec. 361	60	2264
Louis Yeager, Yeager 1, Sec. 38	*	1150
Karnes County—		
W. R. Campbell, I. Coats 1, C. Martinez Sur.	*	3005
Refugio County—		
Humble, M. V. O'Conner 12, J. Keating Sur., ¼ choke	240	3094
Stanolind, J. M. O'Brien 3-A, Peoples Sur., 3/16 choke	150	4384
T. O'Conner 1, N. S. Crunk Sur., (wo), ¼ and ⅛ chokes	156	4392
United Prod. Co., M. F. Lambert 2-A, E. A. Harper Sur., 3/16 choke	240	3520
Starr County—		
Los Olmos O&G Co., Kelsey Bass 57, Sec. 6, Por. 75-76-77	*	695
Kelsey Bass 58, Sec. 7, Por. 75-76-77	10	452
Sioux Oil Co., Goodrich 5, Blk. 1, Tr. 5, Por. 80	*	1420
Sun Oil Co., M. Guerra 5-B, Las Cuevitas Sur.	*	2692
Uvalde County—		
F. A. Brown, J. Millican 1, Block 65	*	565
Williamson County—		
Taylor Refining Co., L. Bachmeyer 3-A, H. White Sur.	10	949
J. Reiger 2-A (3), H. White Sur.	*	990
Zapata County—		
O. W. Killam, R. Hinnant 2, Block 1, Sec. 10	*	1692

*Failures; †Junked; ¶Million cu. ft. gas.

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New Oil Pool Opened in New Mexico

(*Continued from page* 151)

for this wildcat. No gas is found in the upper lime by tests in the field proper. The Texas Company's Bulah Lynch 2-B, located on the south line of Section 27-20s-34e, and north of production, was drilling in hard white lime at 3780 feet late last week after passing up oil showings in the upper lime.

Company, Well and Location	Init. Prod. Bbls.	Depth
Jal Field—Lea County—		
Continental Oil Co.-The California Co., Ascarate 1, NWc E½ 24-25-36 ....¶5-1800		3290

*Failures; †Junked; ¶Million cu. ft. gas.

San Patricio County Test Plugging Back to Test

San Antonio, Texas.—Plymouth Oil Company is plugging back from 6602 feet to test a sand topped at 5418 feet in E. H. Welder 1, southeast corner of J & F Portillo Survey, 2½ miles north of Sinton, in San Patricio County. An electric tester showed possibilities of production at that depth and the hole will be plugged above that level to about 5300 feet and sidetracked to that depth, where it will be cored and tested.

Atkins and O'Neill's J. F. Welder 1, J. Hart Survey, five miles southwest of Odem, is shut down for fuel oil at 5113 feet. Beasley and Maxwell's Saddler 1, Section 32, Taft Farm Lot Subdivision, east of Taft, is waiting on cement after setting 600 feet of 10-inch. C. B. Bunte is drilling J. D. Holland 1, Lot 26, Eaton Subdivision, at 4950 feet.

KIRBY SMITH, sales manager for Gulf Coast Machine & Supply Company of Beaumont and Houston, died April 10 at St. Joseph Infirmary in Houston. He had been closely associated with Gulf Coast and Mid-Continent operators for more than 15 years, and during parts of that period was sales manager for Lucey Products Corporation, district manager for the same company, and sales manager for J. H. McEvoy & Company.

During the World War he served overseas as captain of a machine gun company with the Third Division. He received his education at Auburn and University of Alabama. He is survived by his wife and two sons.

C. V. TERRELL, member of the Texas Railroad Commision, who recently had an attack of illness, is reported to have shown marked improvement during the past week.

Miramir West Columbia Test Showing Production

Houston.—Miramir Oil Corporation's Hogg 2, at West Columbia, early Saturday morning was swabbing after the well had stopped flowing mud and oil on being choked.

Three joints of screen were set earlier in the week, hole being bottomed at 5686 feet. Friday morning after being bailed the well began flowing oil and drilling mud and a flare was lighted to take care of the gas.

The well was choked back with a ⅜-inch and stopped flowing. The choke was removed and the well agitated and it started flowing again, only to stop when a ¾-inch choke was applied.

It is thought that heavy drill mud has clogged up the screen and late Friday afternoon the crew began running a swab.

Gas pressure was strong.

Miramir Oil Corporation was organized about one year ago with R. S. Sterling, former president of Humble Oil & Refining Company and later governor of Texas, as its active head. The company has since developed a good production at Hull where it is the second largest producer with more than a half score of wells.

The first well drilled by the company at West Columbia was lost when pipe stuck and the derrick was pulled in. The first well, Hogg et al 1, showed strong gas pressure and evidences of oil and the company moved over a short distance and began drilling No. 2. Ed Watts, well known drilling contractor and independent operator in the Gulf Coast country is also identified with the Miramir Oil Corporation.

Sour Lake Extensioner Finds Cockfield Production

Houston.—Cockfield production has apparently been developed one half mile east of the former producing limits of the Sour Lake field, a high gas pressure and a well saturated oil sand in Pharr, Frank Carpenter et al's Bernard 1 indicating an important extension. The Cockfield was topped at 6935 feet and heavy mud was pumped into the hole to keep it from blowing out. Blow-out preventer was applied three times because of threating pressure. The well was drilled to 6944 feet and screen was to have been run over the week-end.

The plug was not drilled for some time, as the company was negotiating with major producing companies. A production test has not been made, as only 300 feet of surface pipe was set.

Leases near the well have been com-

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Photograph shows O-C-T Assembling and Testing Department. Christmas-tree or rack had 3000 pounds cold water pressure on it when picture was made. This test rack is provided with two pressure gauges and there are two gauges on the tree when the test is made. The test must be accurate because all four gauges must show the same pressure. O-C-T does not depend upon the accuracy of a single gauge. All O-C-T Products are tested in this manner.

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HOUSTON, TEXAS

manding high prices, quotations of from $150 to $250 per acre having been common. Major companies have been active in the immediate area, and have also extended leasing operations into Hardin School Land Survey No. 168.

Deviated Dry Hole Makes Producer

Houston.—Hamil & Smith's old 5211-foot dry hole at Conroe has been converted into a producing oil well. The dry hole was taken over by Adeltex Oil Company and oriented three degrees to the north. It is reported the well made 405.3 barrels in 24 hours through a quarter-inch choke from 5204 feet. The railroad commission has fixed its allowable at 63 barrels per day. At the bottom of the diverted hole, 2½-inch casing was set, as well as a packer. Tubing pressure on the well is 500 pounds.

The test is now known as Adeltex Oil Company's Lewellen 2, and is located 790 feet south and 490 feet east of Sun Oil Company's Foster 14, in the Hamlet Survey at Conroe.

The company reports that a survey of the hole showed it to be 4½ degrees off vertical and that this was approved by the railroad commission.

An unconfirmed report during the past week stated that the railroad commission shut the well down and ordered the operators to plug back to 3000 feet and drill a straight hole, but a later report stated the order had been rescinded.

Harris County Well Preparing to Test

Houston.—American Liberty Oil Company's Clappert 1, near Aldine, Harris County, was drilling late last week at 6610 feet. The well is now circulating mud, before making a drill stem test.

The company has renewed the rentals on 6000 acres and has purchased several tracts of additional land in the vicinity of the well. An unconfirmed report during the week stated that Humble Oil & Refining Company had purchased a 1500-acre tract in this area and that several more of the major oil and independent companies were purchasing around this mystery well.

Deep Test Started In Uvalde County

San Antonio, Texas.—Texas-Humble Oil & Refining Company has announced a location for a deep test, possibly to the Ordovician, in Uvalde County. It is R. L. Anderson 1, about three miles east of the town of Uvalde.

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Splendora Test to Be Completed As Gas Well

Houston.—After circulating mud for the past two or three weeks Steen Drilling Company has decided to complete its Texas Long Leaf Lumber Company 1, eight miles east of the Conroe field, in the Walker School Land Survey, Montgomery County, as a gasser.

This wildcat was the eighth wildcat located on the Conroe trend to show gas and oil of indicated commercial value. Hockleyensis was topped around 4909 feet, Operculina at 5805 feet, and the Cockfield at 5821 feet. Elevation is 131 feet.

After penetrating the Cockfield 56 feet, the bottom of the hole being 5877 feet, the wildcat recovered four gallons of mud and two gallons of distillate in four minutes from 5855 feet to 5877 feet and a gas pressure of 500 pounds.

The second test showed one joint of brown distillate from 5873 to 5882 feet through a quarter-inch choke on top and a three-eighths-inch on bottom and built up a 575 pound pressure in 15 minutes. The drill stem test was made after the operators had penetrated the Cockfield 61 feet.

Upon penetration of the Cockfield 232 feet and encountering 11 feet of sand, the wildcat on an 11 minute drill stem test, showed 23 thribles of salt water and a scum of oil from 6016 to 6053 feet, steel line measurement. The test had a pressure of 250 pounds, with a three-eighths-inch choke on top and bottom. When shut in, the pressure built up to 400 pounds in two minutes. The sand was encountered from 6039 feet to 6050 feet. This was the third drill stem test for the operators. This well held the interest of the major and independent oil companies for the past two months. Leasing activity around the well ran high. It is understood that one of the major oil companies is going to make a location on its block before May 15 and it should prove interesting to watch.

Matagorda Wildcat Waiting on Storage Tanks

Houston.—Skelly Oil Company's Gobb 1, Matagorda County wildcat, was shut in during the past week to await erection of storage tanks. The well is located 1½ miles north of Van Vleck, in the M. Cummins Survey. The operators took another test last week and recovered 198 barrels of distillate in 24 hours through a 17/64-inch choke installed on bottom of the tubing. The tubing pressure is estimated at 500 pounds and the casing pressure at 1975 pounds. The estimated gas flow is 15,000,000 cubic feet per day. A test on the well two weeks ago showed

120 barrels distillate in 24 hours, along with 7,800,000 cubic feet of gas through a 3/8-inch choke with a tubing and casing pressure of 2775 pounds. The distillate was 57 gravity.

The bottom of the hole is 7178 feet, but the test was plugged back to 7023 feet in order to get a true test of the 20 feet of saturated zone from 7023 to 7043 feet.

The elevation of the wildcat is 66 feet. The distillate has changed from a light kerosene color to a dark brown crude oil tint.

Skelly Oil Company now has a 75 percent ownership in the block, for which it paid a reported consideration of $30,000 in cash and $100,000 out of oil.

Ten Texas Coast Wells Have Small Initial

Houston. — Completions along the Texas Gulf Coast resulted during the past week in 10 oil wells with total initial production of 3497 barrels of oil per day and six dry holes. Two workovers were shown producing 849 barrels of pipe line oil per day.

The full list of completions follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
Conroe—		
Gulf Coast Drlg. Co., Keystone Mills 16-A (wo)	417	5156
Keystone Mills 21	500	5071
Keystone Mills 27-A	*	loc.
28 (wo)	*	5153
King Drlg. Co., Moody 8, (wo)	432	5134
Esperson—		
General Crude Oil Co., Davis 7 (wo)	96	4546
Goose Creek—		
Miramar Oil Corp., Hughes 1.	800	4016
Hull—		
Republic Prod. Co., Dolbear 104 (wo)	75	4546
Livingston—		
H. Owenby, Munson 1	360	4333
Tomball—		
Amerada-Stanolind, Rudel 3 (wo)	49	5583
Humble, Sherer 1	432	5599
Texas Co., Hirsch 1	336	5612
Ft. Bend County—		
Taubert, McKee & Harper, Grigor 1, five miles south of Wallis	*	5166
Harris County—		
McCarthy et al, Preston 1, (La Porte)	*	5729
Polk County—		
D. B. McCall et al, Fortner 1, 11 miles northeast of Livingston	*	1271
San Jacinto County—		
Turnbull & Irwin, Fitzgerald 1, nine miles northwest of Cleveland	*	5852

*Failures; †Junked; ¶Million cu. ft. gas.

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Shell Sets Record Gulf Coast String in Louisiana Wildcat

Houston.—In successfully cementing 9⅝-inch casing at 7527 feet in Kratzer 1, Roanoke prospect wildcat in Jefferson Davis Parish, Shell Petroleum Corporation has established a new Gulf Coast record for this size string. A full 12¼-inch hole was drilled to the cementing point, and no trouble was experienced in landing the casing.

Kratzer 1 was spudded November 11, 1934. The well is located one mile northeast of the Magnolia Petroleum Company-Humble Oil & Refining Company development, and is about midway between the Welsh and Jennings fields.

A string of 13⅜-inch casing was cemented at 1509 feet with 450 sacks of cement. Size of hole was reduced to 12¼ inches.

At 4700 feet, deviation from vertical was eight degrees. This was considerably outside the tolerance, and the hole was plugged from 4010 to 3890 feet to straighten. Cement was drilled January 1, but it had not set enough, and hole was plugged back again.

After sidetracking to 4004 feet, drill pipe stuck at 3989 feet while surveying for deviation. Hole was cleaned out to the new bottom, and four-inch drill pipe was substituted at this level.

It was common practice to drill a small hole and ream to full size. An 8¾-inch hole was reamed to 12¼ inches between 3827 and 4164 feet, 4185 and 4483 feet, and 4153 and 4477 feet.

A formation test was made from 4493 to 4504 feet, with the seat at 4483 feet. Recovery was 12 thribbles of salt water charged with gas and showing a light scum of oil.

Cores were taken regularly to 5000 feet, and after plugging back to 3800 feet cores were taken to 4800 feet. No coring was done between 4800 and 6700 feet, but coring was continuous from 6700 to 7527 feet.

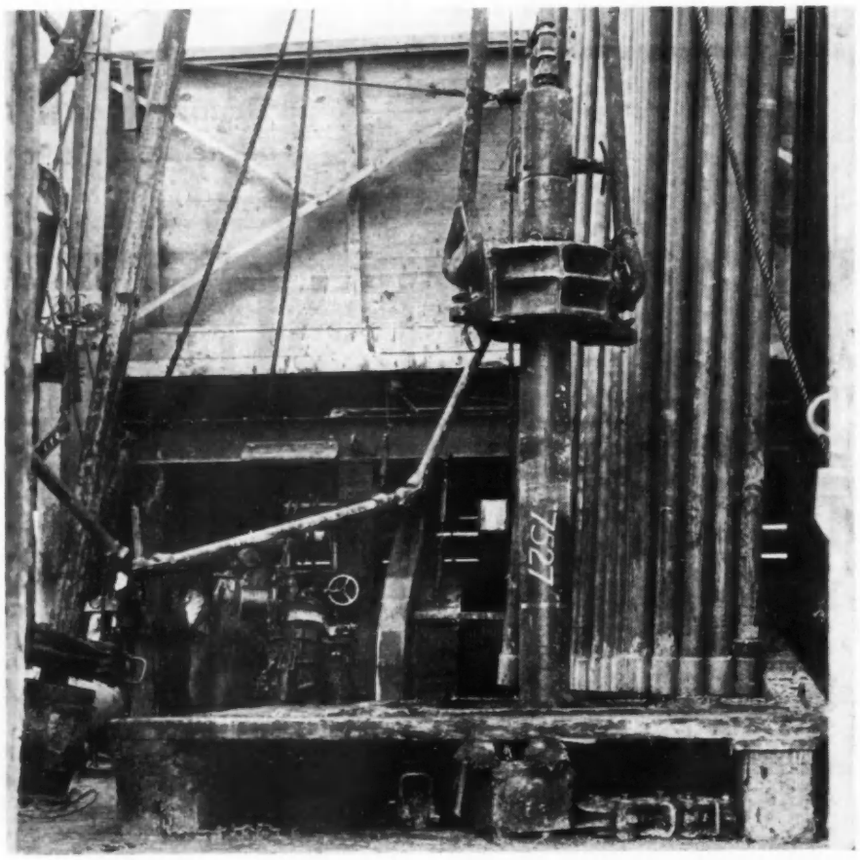
At 7527 feet, formations were checked with an electrical logging device, and results were satisfactory.

The 9⅝-inch casing was landed and cemented at 7527 feet with 528 sacks of oil well cement. The hole was in good condition and no unusual difficulties were encountered in setting the record.

Size of hole was reduced to 8¾ inches, and the well is now drilling below 8185 feet.

In drilling to 8185 feet, a total of 11,763 feet of hole has been made. This includes drilling, rat holing, reaming, and sidetracking to straighten hole. This total hole was made in 141 days, including 13 days fishing out 4000 feet of 6⅝-inch drill pipe.

Maximum allowed deviation was less than three degrees, and present deviation is less than two degrees. A total of 260 cores was taken.



Kratzer 1 standing cemented after landing and cementing 9⅝-inch casing at 7527 feet.

Five South Louisiana Completions Produce

Lake Charles, La.—Five producing wells were completed in the Louisiana Coastal area with an initial production of 5240 barrels per day. Of the six completions, one was a failure.

The Texas Company's State Caillon Island 11, in Terrebonne Parish, approximately 500 feet southwesterly from No. 8, Section 23s-20e, flowed 2042 barrels of pipe line oil per day for the biggest producer of the week. The well produced from 3983 feet.

Detailed list of completions in the Louisiana Gulf Coast for the past week follow:

Company, Well and Location	Bbls. Init. Prod.	Depth
Bay St. Elaine—		
Texas Co., State Bay Elaine 7	30	2721
Caillon Island—		
Texas Co., Caillon Island 11	2042	3983
Iowa—		
Barnsdall Oil Co., Fontenot 4	1680	6941
Shell, Fontenot 6	768	6939
Lake Barre—		
Texas Co., State Lake Barre 28-D	*	1015
Leesville—		
Gulf, Allen Land Co. 1	720	3476

*Failures; †Junked; ¶Million cu. ft. gas.

Liberty County Test at Deep Depth

Houston.—Gulf Production Company's Kirby C-2, four miles southeast of Cleveland, J. Pleasant Survey, Liberty County, was drilling at 7885 feet late last week. The test is at an unusual depth for this part of the Texas Gulf Coast, and the company reports it will continue drilling. The well topped the Cook Mountain at 7004 feet with an elevation of 140 feet. Kirby C-3, in the same survey, was drilling below 200 feet in gravel.

Men who helped to established a new Gulf Coast casing record by cementing 9⅝-inch casing at 7527 feet in Shell Petroleum Corporation's Kratzer 1:

Standing—Left to right: B. F. Simmers, derrickman; D. H. Carruthers, derrickman; Ed Johnson, fireman; C. E. Lee, general drilling superintendent, Houston; Sam H. Wilkerson, rotary helper; J. C. Chalmers, exploitation engineer, Iowa; E. N. Van Duzee, district foreman, Iowa; M. L. Ewer, division engineer, Iowa; F. R. Frederick, area mud engineer, Iowa; R. D. Risser, division superintendent, Iowa; D. Crockett, vice president's office, Houston.

Seated—Left to right: Joe Moffett, rotary helper; H. V. Hargis, rotary helper; W. S. Cole, rotary helper; E. E. Davidson, drilling foreman; Everett Shaw, fireman; R. N. Myers, driller; F. P. McIntyre, driller.

Important Conroe Trend Test Drilling Ahead

Houston.—Tide Water Oil Company's Southwestern Lumber Company 1, five miles northeast of Kirbyville, in the H. Cochran Survey, Newton County, was drilling late last week at 3135 feet. At 2800 feet a survey of the hole was made and it was found to be off only one degree. Darby Petroleum Company is drilling this wildcat. Water sand was encountered at 370 feet, where the drill stem stuck and while trying to get the drill stem loose the cable broke.

The test is located on a geophysical prospect, which has resulted in an advance in royalty prices to as high as $50 per acre, and oil leases around the well. It is reported that Tide Water Oil Company paid Southwestern Lumber Company $250 per acre in this area. Sun Oil Company, Independent Exploration Company, Republic Production Company and others are leasing around the well. Gas is being furnished by the United Gas Company and pipe was laid from the trunk line to the well.

This well is one of the most important wells on the Conroe trend and will be watched closely by the major

North Louisiana Has Short Completion List

Shreveport, La.—North Louisiana had only four completions last week, two being small producers in the Wolf City sand of the Converse field, Sabine Parish, one a small gasser in the Monroe gas field, and the other a dry hole in Zwolle.

One of the Converse wells is making five barrels of oil daily, along with a considerable amount of salt water on the beam from two feet of sand, while the other is pumping 35 barrels of oil daily from four feet of sand.

One new test was launched in Converse, Lanier & Rodgers' Paul 2, 250 feet north and 320 feet west SEC NE Section 9-9n-13w, which is rigging up.

Completions last week in North Louisiana follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
Ouachita Parish (Monroe)—		
Arkansas-Louisiana Pipe Line Co., Rea & Green 6, ne ne 10-18n-4e	¶134	2195
Sabine Parish (Converse)—		
Helena O&G Co., Chambless Hrs. 1, sw ne 20-9n-13w	5	2009
L. D. Higgins, A. J. Burkett 1, ne ne 16-9n-13w	30	2034
Sabine Parish (Zwolle)—		
A. H. Tarver, Barthold & Steinhorst 1, ne sw 25-8n-12w	*	2639

*Failures; †Junked; ¶Million cu. ft. gas.

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PELCO will not exhibit at the Houston Show because PELCO specializes only in making ordinary equipment extraordinarily well. We have nothing new to offer except new high standards in manufacturing and merchandising — and we can't bring the plant or the organization. But some of the PELCO Gang will be seein' you at the Show.

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SHREVEPORT, LOUISIANA

oil companies because of the successful experience in the past by the Tide Water Oil Company and Texas Seaboard Oil Company in the East Texas district.

Nowery J. Smith Opens Beaumont Store

Nowery J. Smith Supply Company has opened a new branch store at Smith Switch, Beaumont, Texas. The store opened last Saturday with a complete line of oil well supplies, principally derricks, tanks and separators.

Bulk of New Louisiana Work in North Section

Shreveport, La.—Bulk of new work in Louisiana as revealed by last week's list of permits authorized is in the north end of the state. Of 19 new tests authorized only five were in the coastal region.

In Bienville Parish, J. F. Evans, Shreveport, has authority for First National Bank of Gibbsland 1, 330 feet north and east out of the southwest corner of NW NW Section 15-17n-7w.

In Bossier Parish, C. B. Duffield et al, Kansas City, Mo., were granted permit for Werner 2, 330 feet north and west from southwest corner of NE NW Section 11-15n-13w.

Three permits were issued in Calcasieu Parish as follows: Emerson Oil Company, Vinton, for Yount-Lee 1, 50 feet west, 100 south of southwest corner SE SE Section 21-9s-11w. Magnolia Petroleum Company, Lake Charles, B. T. Wait 7, 1310.6 feet north and 600 feet east of southwest corner of SE Section 12-9s-7w. Union Sulpher Company, Sulphur, Fee 793, 2403 feet north and 435 feet east of center of Section 29-9s-10w.

Three were authorized in DeSoto Parish: W. B. Flynn, Nabors Estate 1, 330 feet north and 400 west of center of Section 6-12n-11w. Manziel & Dempsey, Gladewater, Texas, T. D. Thigpen 1, 375 feet south and 200 feet west on the northeast corner of SW NE Section 33-13n-13w. Sun Rise Petroleum Company, Houston, Texas, B. Y. Wemple 1, 610 feet east and 735 feet north of southwest corner NW SW Section 14-12n-11w.

In Lincoln Parish, Triangle Drilling Company, Shreveport, has authority for W. A. Calvin 1, 660 feet east of center of Section 31-20n-3w.

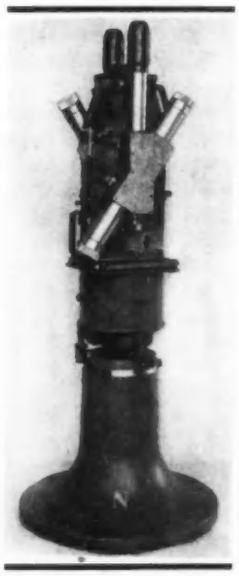
In Ouachita Parish, Arkansas-Louisiana Pipe Line Company will drill three tests: Rea Green 8, 3250 feet south and 1230 feet east of the northwest corner of Section 3-18n-4e; Rea Green 9, 2720 feet south and 1750 feet west of the northwest corner of Section 4-18n-4e, and Rea Green 10, 1775 feet west and 35 feet north of the southeast corner of SW Section 33-19n-4e.

In Plaquemines Parish, Humble Oil & Refining Company, New Orleans, has authority for Cockrell-Moran 21, 2158.4 feet south and 1550 feet east of station "Wash."

Sabine Parish

Five tests were authorized in Sabine Parish: Bell & Lacy, Dallas, Texas, Morgan 1, 330 feet north and west of southeast corner of SW Section 3-9n-13w; Helena Oil & Gas Company, El Dorado, Ark., A. J. Burkett 6, 330 feet south and east of northwest corner of NE Section 10-9n-13w; Service Drilling & Royalties Corporation, Shreveport, G. Woll Estate 1, 660 feet south and 330 feet west of the northwest corner of Section 8-7n-10w; The Gerhig Company, Shreveport, A. J. Burkett 2, 990 feet north and west of southeast corner of Section 9-9n-13w; The Texas Company, Shreveport, C. E. Cooper 2, 330 feet north and west of southeast corner of Section 30-8n-11w.

In Terrebonne Parish, The Texas



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Company, Shreveport, plans State-Cailleu Island 13, 500 feet southwesterly from No. 11.

Urbana Completion Makes 100 Barrels

El Dorado, Ark.—The Urbana field, Union County, added a 100-barrel daily flowing oil well last week from four feet of sand at 3524 feet.

One well was abandoned in the Miller County field. Two new tests were started in Arkansas last week, one in the Miller County field, Frank Roe's Olivet 1, NEC NE SE Section 4-16-26. The other is a cable tool job in Conway County Southern Union Gas Company's Feldman 1, Section 6-5n-17w.

Completions last week in Arkansas follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
Miller County—		
C. E. Murdock, Andrew Rose 1, ne nw 4-16-26	*	2920
Union County (Urbana)—		
Marine Oil Co., M. H. Simmonds 2, ne nw 10-18-13. . .	100	3524

*Failures; †Junked; ¶Million cu. ft. gas.

Two Gas Completions In Jackson Field

Jackson, Miss.—Two gas wells, one in the extreme southeast part of the Jackson gas field in Rankin County, and the other in the northern part of the Hinds County part of the field, were completed last week.

The former was Henslee & Tanner's Sloane 1, 480 feet south and 450 feet east NWC NW SW Section 7-5n-2e, estimated at 40 million cubic feet daily. Chalk was penetrated six feet to 2409 feet. The other well is estimated at 50 million cubic feet daily. It penetrated eight feet into the chalk to 2433 feet; elevation is 275 feet.

These are the first wells completed in the Jackson field in several weeks.

Completions last week in Mississippi follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
Hinds County (Jackson)—		
Alexander & Weaver, L. L. Mayes 1, nw se 25-6n-1e. . .	¶50	2433
Rankin County (Jackson)—		
Henslee & Tanner, Sloane 1, nw sw 7-5n-2e	¶40	2409

*Failures; †Junked; ¶Million cu. ft. gas.

JACK R. ANDERSON, 27, district manager at Shreveport, Louisiana, for Dowell, Incorporated, was fatally burned in an explosion at a well in Union County, Arkansas, April 9, which was being given acid treatment. It was the first Arkansas well to use chemicals. Anderson died a few hours later at El Dorado.

Another Gas Company Enters Michigan

Mt. Pleasant, Mich.—Following several months of investigation, Atlantic Seaboard Natural Gas Company, Inc., of Coundersport, Pennsylvania, has opened offices here. The local representatives of the company are Arthur and Harold Davidor.

Michigan Natural Gas Regulation Hearing Called

Mt. Pleasant, Mich.—Municipal officials and industrialists all over Michigan have been invited to Lansing, April 18, to confer with the public utilities commission on the formation of rules and regulations for the production, transmission and distribution of natural gas. The call for the conference is the first step in Governor William A. Comstock's plan to bring the natural gas industry under direct control of the state. Reduction in the gas rates for household and industrial users has been set up as the governor's goal.

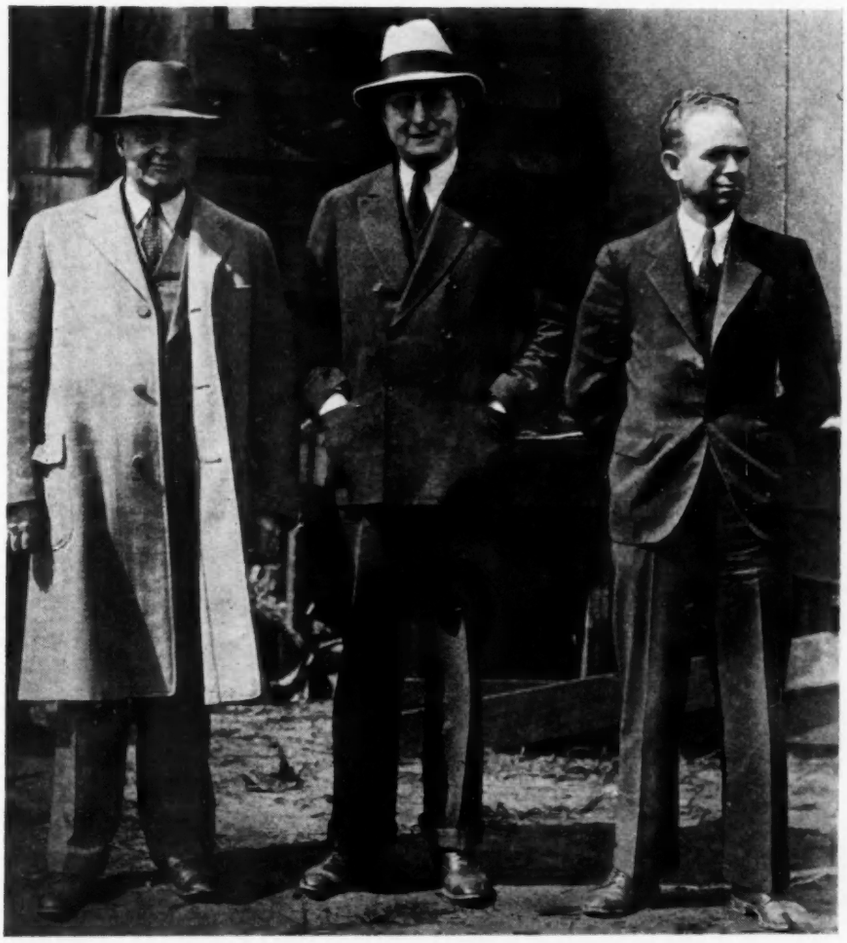
The conference is expected to bring about the creation of an advisory committee to work with the commission and its engineers in the devising of rules for the natural gas industry's operation.

Michigan Potential Above 125,000 Barrels

Mt. Pleasant, Mich.—The potential, number of wells and estimated runs under the five percent proration schedule for Michigan in April is announced as follows by the state proration committee:

Pool	No. of Wells	Potential	Runs
Porter	154	112,503	19,261
Yost-Jasper . . .	12	2,808	825
Chippewa-Greendale . . .	324	4,572	4,572
Vernon	43	4,003	2,564
Leaton	23	709	709
Muskegon . . .	174	362	362
Oceana	13	345	345
Ogemaw	9	949	359
Saginaw	134	134	134
Montcalm . . .	1	73	73
Cass	1	3	3
Totals	888	126,461	29,207

*Failures; †Junked; ¶Million cu. ft. gas.

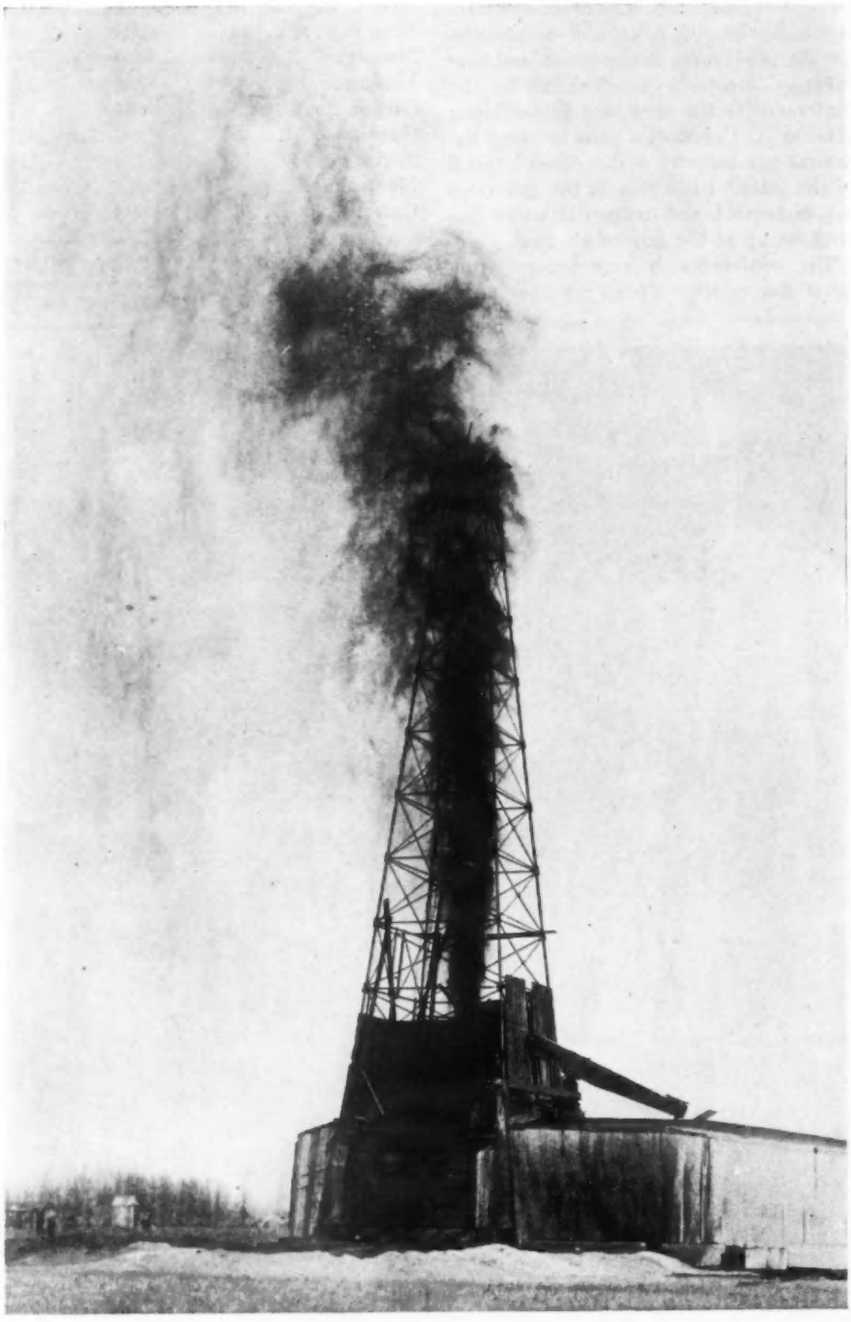


Reading left to right—C. L. Maguire, president of Roosevelt Oil Company; Walter L. (Wildcat) McClanahan, president of McClanahan Oil Company; and Guy M. Chappman, geologist for McClanahan Oil Company. Picture snapped on the Brew lease just after completion of the 4700-barrel Dundee well.

Important Michigan Wildcats Due to Be Completed

Mt. Pleasant, Mich.—Two wildcat tests drilling in northern Midland County more than 15 miles northeast of the Chippewa-Greendale pool, will test the Dundee lime horizon this week. Lawson Oil and Gas Company's Atkinson 1, Lincoln township, Section 26, is drilling below 3340 feet in shale and Sun Oil Company's Piegols 1, Larkin Township, Section 9, is drilling below 3470 feet. Atkinson 1 should pick up Dundee lime between 3450 and 3550 feet and Piegols, between 3500 and 3600 feet.

Bradner and Vaughan's Brennan 1, Midland County, Porter township, Section 27, mile south of production, is drilling at 3400 feet and probably will complete in Dundee lime this week. Other active Midland County wildcats are George Hanner's Hoyt 1, Jasper township, Section 24, drilling below 650 feet; Jasmid Oil Company's Pietscher 1, Jasper township, Section 28, moving in tools; Howard Patterson's Haskins 1, Section 26, drilling below 700 feet; and Melvin and Brehm's James-Whitaker 1, Geneva township, Section 19, building road.



McClanahan Oil Company's Brew 2, Midland County, Porter township, Sectoin 20, initialed 4762 barrels, one of Michigan's largest Dundee wells.

Pure Oil Company's Willie 2, Isabella County, Broomfield township, Section 4, first deep test in the Broomfield gas area, is being plugged back to a 10-barrel show in Dundee lime, where it will be treated with acid. Test topped Dundee at 3633 feet and filled 250 feet in casing with oil at 3635 feet. Water was encountered at 3661-68 feet.

J. E. Harding's Todd 1, Isabella County, Broomfield township, Section 7, is shut down at 1350 feet but may drill ahead for a gas sand test this week.

Youman and Burke's Chaffee 1, Isabella County, Sherman township, Section 31, is drilling below 700 feet.

Columbia Oil and Gas Company's Dutmers 1, Mecosta County, Hinton township, Section 23, is driving pipe below 450 feet. Daily Crude Oil Company's Christensen 2, Montcalm County, Home township, Section 10, is below 1200 feet and same company's Blair 1, Montcalm County, Ferris township, Section 11, is driving pipe.

J. L. Strachen's Moss 1, Ionia County, North Plains township, Section 19, was reported to have showed some gas in the lower Marshall at about 1000 feet.

Thomaston Oil and Gas Company's Rust 1, Saginaw County wildcat test, Thomaston township, Section 2, chalked Berea sand formation at 2192 to 2360 feet and is drilling ahead at 2600 feet. Berea showed neither oil, gas or water.

Pure Oil Company's Beukema 1, Allegan County, Dorr township, Section 27, is to be spudded in this week.

Michigan Activity at Highest Peak in Years

Mt. Pleasant, Mich.—Seven completions in Michigan for the week included five oil wells, one gas well and a failure. McClanahan Oil Company's Brew 2, Midland County, Porter township, SE SE NE, Section 20, was completed at 3430 feet in Dundee lime for 4762 barrels initial as the largest single producer. When drilled in, Drew 2 made an initial flow of 150 barrels in 10 minutes, and showed an estimated 10,000,000-foot gas flow. Test is producing from 42 feet in the Dundee horizon with tools in the hole.

Operators were forced to cut the

drilling line after the well flowed wild for about two hours. The test had one of the highest initial pressures and gas flow of any drilled in Michigan.

Stoddard and Darke's Brooks 1, Isabella County, Vernon township, SW SW SW, Section 14, mile northeast extension test of the Vernon field, topped Dundee lime at 3795 feet and encountered water at 3850 feet. Test was completed as failure at total depth of 3854 feet.

Sixty-five tests are drilling in the Porter pool at the present time and approximately 200 tests drilling in the entire state to bring Michigan at its highest spring drilling peak since 1929. Activity in Porter township is centered chiefly in Section 21 and the south and west border of the section. This area has produced wells ranging up to 6000 barrels on initial.

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Midland County—		
McClanahan Oil Co., Brew 2, Porter twp., se se ne, Sec. 20	4762	3430
Pure Oil Co., Neitzke 1, Porter twp., nw nw sw, Sec. 21	317	3428
Miller A4, Porter twp., se nw sw, Sec. 17	240	3420
Kleinham 1, Porter twp., sw nw ne, Sec. 20	800	3425
Strange & Fortney, Campbell 4, Porter twp., sw ne se, Sec. 18	300	3430
Isabella County—		
Stoddard & Darke, Brooks 1, Vernon twp., sw sw sw, Sec. 14	*	3854
C. E. Weller, Battles 1, Vernon twp., sw nw Sec. 36	¶½	1309

*Failures; †Junked; ¶Million cu. ft. gas.

Fifteen New Starts For Michigan

Mt. Pleasant, Mich.—Permits for 15 tests in five different counties were issued to drill in Michigan for the week. They follow:

Midland County—Pure Oil Company's Bond A3, Porter township, SE SE SW Section 7; Bond B 1, Jasper township, SE SE SE Section 12; Kleinhams 2, Porter township, NW SW NE Section 20; Neitzke 9, Porter township, SE NW SE Section 21; Neitzke 12, Porter township, SW NW SE Section 21; Novak B 2, Porter township, NE NE NE Section 18; Rayner B 2, Porter township, NW NW NW Section 18. Columbia Oil and Gas Company's Hale 2, Porter township, NE SW SW Section 21; Hale 3, Porter township, SW SW SW Section 21. Strange Oil and Gas Company's Walley 6, Porter township, NE SW SE Section 16.

Montcalm County—Daily Crude Oil Company's Blair 1, Ferris township, SW SE SE Section 11. Theodore Oil Company's Sherwin 1, Home township, SW SW SW Section 13.

Mecosta County—Columbia Oil and Gas Company's Dutmers 1, Hinton township, SW SE NW Section 23.

Ogemaw County—Freisner and Self's Schnider 1, West Branch township, SE SW SE Section 17.

Hillsdale County—B. D. Chandler's Brickner 1, Wright township, Section 11.

Outpost Test of Mountain View Produces

Los Angeles.—Union Oil Company's outpost test at Mountain View flowed a few heads and will go on the pump. It is estimated that it will make from 200 to 400 barrels 26 gravity oil. Bottom is at 5355 feet with 10 feet of perforated pipe below 5339 feet.

This well extended the field two miles or prove a new area. There being two different views.

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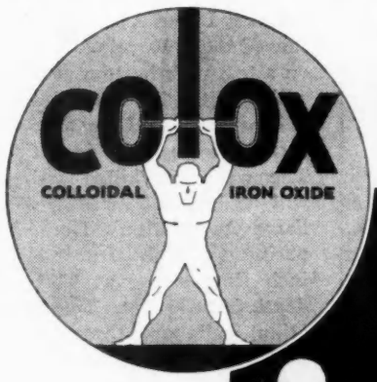

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Drilling Activity At Kettleman Hills Increases

Los Angeles.—The Kettleman Hills field is showing increased activity with new wells getting underway faster than completions are reported. A recent check of the field indicated 39 operations ranging from locations to drilling wells.

Standard Oil Company and Kettleman North Dome Association lead with 17 operations each and miscellaneous companies are credited with five. There are 21 actively drilling wells, four foundations, one rigging rotary, 12 rigs and one location.

North Dome Association's No. 41-32J, has been completed at 8637 feet for 2450 barrels of 35 gravity oil and 1,360,000 cubic feet of gas. It was allowed to produce two days and was then shut in. A string of 9⅝-inch casing has been cemented at 7665 feet. Other casing in the hole included 590 feet of 20 inch and 5968 feet of 13⅜ inch. The tubing pressure was 695 pounds and the flow was through 55/64-inch bean.

North Dome Association's No. 72-2P flowed 1700 barrels of 35 gravity oil on a test with bottom at 8142 feet. The casing in the hole includes 6589 feet of 9⅝ inch and 8127 feet of 6⅝ inch, perforated from 7367 feet to 8127 feet. The well was killed and the tubing will be lowered for another flow test. Same Association's No. 4-20J is preparing to swab after hanging the 3-inch flow string at 6004 feet. Total depth is 8850 feet. Two other Association wells are through drilling and preparing to complete.

Standard Oil Company has three wells at or very near the completion state. It has six other holes drilling below 6000 feet which should be completed late in April or early in May.

Superior Oil Company is starting its Huffman 8 in Section 29-21-17 and Union Oil Company's King 5 is drilling in shale below 7500 feet. Its King 6 is standing rigged up. Associated Oil Company's Whepley 4 in Section 35-21-17 is sidetracking drill pipe at 8190 feet with old bottom at 8580 feet.

Nine Wells at Ventura Avenue Below 5000 Feet

Los Angeles.—Ventura Avenue continues fairly active with two companies drilling 10 of the 11 active wells. Four more wells are to be spudded in the next week or two. Five holes are drilling below 7000 feet and four more are drilling between 5000 and 7000 feet.

Associated Oil Company's Lloyd 133 is drilling in sand and shale below 8250 feet and has 7341 feet of 11¾-inch casing in the hole. Same company's V L & W 22, which was drilled to 7500 feet, is plugging bottom. Last casing was 11¾-inch cemented at 6649 feet.

Property Service Corporation is building roads to its Dabney-Lloyd 1, which will test an unproven area, but thought to have much promise.

Shell Oil Company is drilling four wells, testing one and has one rig up .

Good Producers At Mountain View

Los Angeles.—Better than 1000-barrel wells seem to be the order of the day at Mountain View, in Kern County, near Bakersfield. Mohawk's McKeehan 1, which came in for 2200 barrels, is now permitted to flow 1545 barrels. Same company is preparing to start a new well on its Mabry 10-acre tract due south of its latest producer.

O'Kane & Brain's Wright-Bloemer 1, in Section 30-30-29, is a recent completion at 5605 feet for 1680 barrels of 28.2 gravity oil. Gas production is slightly better than 1,000,000 cubic feet.

There are 17 operations in the field ranging from rigs to drilling wells, and including three idle drillers. An even dozen wells are drilling. Eight wells are drilling below 5000 feet.

Baldwin Hills Wells Decline Rapidly

Los Angeles.—Pacific Western Oil Company has completed two good wells at Inglewood, but the initial flow of neither well held up after three days flow. The company's Rubel 16 was completed at 2900 feet for 1200 barrels of 31 gravity oil and declined to 910 barrels. Cone 16 came in at 2945 feet for a settled production of 450 barrels of 27 gravity oil. Both of these wells are on top of Baldwin Hills, which is some distance from Inglewood proper, on the lower land.

Standard Oil Company is starting two new wells on Baldwin Hills and has rig and boilers in place for a third hole. Mills Petroleum Company's Sentous 1 is drilling at 1990 feet and Kieps Oil Company is rigging up at Sentous 1. There is one idle rig in the field.

California Wildcats Reach Interesting Depths

Los Angeles.—Several wildcats in California are getting rather deep, but few give much promise of opening new fields. Ohio Oil Company's K. C. L. 1 in Kern County in Section 31-31-26, is coring at 6670 feet with gas showings. Near Wheeler Ridge in the same county, Badger Oil Company is drilling in hard sandy shale at 5845 feet. The Pacific Northern test in Yolo County is temporarily suspended at 6690 feet. In Fresno County, Western Gulf Oil Company has been testing by stages, with bottom at 7880 feet without any flattering indications. One wildcat in Southern California was abandoned at 5823 feet.

Detailed list of wildcats follows:

Kern County

At Comanche Point, Comanche Oil Company's No. 1, Section 15-32-29, is drilling in shale at 2755 feet.

In the Delano district, North American Oil Consolidated's Quinn 1, Section 25-25-27, is preparing to abandon at 2064 feet.

In the Edison district, Cara Vel Petroleum Corporation's No. 1, Section 19-30-30, is fishing at 1380 feet. A. T. Jergins' Stuart-Gerard 1, Section 23-30-29, is drilling in shale at 1100 feet.

At Lost Hills, Associated Oil Company's Williamson 1, Section 2-26-20, tested zone from 7815 to 7847 feet and it flowed 900 barrels of salt water.

Near McKittrick, Shell Oil Company's Midway-Premier 1, Section 21-29-21, is drilling in shale at 3545 feet. Standard Oil Company's No. 45, Section 15-30-22, was spudded April 4. Welport Oil Company's No. 105, Section 26-29-21, is drilling in sand and shale at 810 feet.

North of Semitropic, S. T. Alexander's Shields 1, Section 29-25-21, stopped drilling in shale at 1426 feet and will set surface casing at 640 feet.

On the Pioneer Anticline, Bankline Oil Company's Orloff 1-A, Section 26-11-24, is idle at 845 feet. Fisher & Welton's Harris 1, Section 35-11-23, is drilling in shale at 175 feet.

In the Shafter district, Shafter Oil Syndicate's No. 1, Section 8-28-25, is drilling in shale at 3160 feet.

At Union Avenue, Alta Oil Corporation's Newell 1, Section 6-30-28, was redrilled to 4040 feet with old bottom at 6457 feet and has recemented 6¼-inch at 3978 feet.

Kings County

In the Tulare Lake district, Armadillo Gas Company's No. 1, Section 32-22-20, is idle at 610 feet. Commonwealth Consolidated's No. 1, Section 21-22-20, is drilling in shale at 1300 feet. Tulare Basin Gas Company's No. 2, Section 2-23-19, is idle at 1208 feet.

San Joaquin County

Near Tracy, Milham Exploration Company's Connolly 1, Section 5-4-5, is drilling in hard shale at 2940 feet.

Santa Barbara County

In Cuyama Valley, Cuyama Valley Oil Corporation's No. 1, Section 12-10-27, is repairing boilers. Bottom of the hole is 3980 feet.

Near Lompoc, Lompoc Petroleum Company's Beauterbaugh 1, Section 18-7-34, is idle at 2150 feet.

Near Santa Maria, Union Oil Company's Rice 1, Section 19-10-33, is deepening in shale from 1830 feet after bailing dry on test of zone from 1521 to 1580 feet.

San Luis Obispo County

Near Cholame, Willett Oil Association's Jack 2, Section 10-25-15, is idle at 550 feet.

Near Edna, Dolly Adams' No. 4, Section 31-31-13, continues idle at 858 feet.

Ventura County

Near Conejo, American Oil Company's

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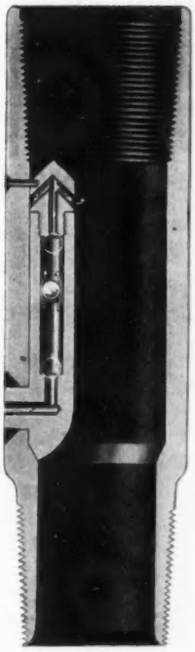

INSIDE TYPE VALVE for use inside small casing.

- Larger volume of fluid handled than can be pumped.
- No wear. No pulling tubing. Handles large amounts of sand.
- An especially safe method for bringing in high pressure wells.
- Initial cost is last cost, and it is surprisingly low.

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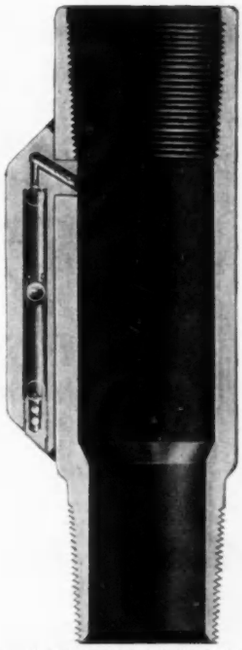

OUTSIDE TYPE VALVE for any kind of a well, particularly in wildcat or other wells where no air or gas is available and it is necessary to swab tubing.

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In Operation
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Houston Oil Show
Booth 722

Alexander Anderson, Inc.
FULLERTON, CALIFORNIA

Powell 1, Section 33-2-20, is drilling in hard sandstone at 3045 feet.

Near Filmore, Laing & Jacobs' Snodgrass 1, Section 32-4-19, is shut down at 700 feet.

In Hopper Canyon, Hancock Oil Company's Hadley 5, Section 13-4-19, is reperforating 6⅝-inch casing with bottom at 3357 feet. Oil Ridge Oil Company's Moran 3, Section 1-4-19, is drilling in shale at 500 feet.

Near Las Posas, Las Posas Petroleum Company's Mahan 1, Section 22-3-20, is waiting for casing with bottom at 6127 feet.

Near Ojai, Garner Royalties Company's No. 1, Section 12-4-20, is bailing after landing 6¼-inch with 700 feet perforated at 1360 feet. Bottom is at 1485 feet. A. N. Macrate's Cosmon 1, Section 27-4-23, is idle after plugging from 5029 feet to 4975 feet. Midlands Oil Company's Canet 1, Section 9-3-25, is redrilling at 7330 feet with old bottom at 7825 feet.

Near Rincon, Woodrow Petroleum Corporation's Woodrow 1, Section 4-3-24, is preparing to plug from 7615 feet to 5000 feet and redrill.

Near Santa Paula, J. W. Mosher's No. 1, Section 22-4-21, is drilling in shale and oil sand at 1875 feet.

Near Sespe, H. A. Iver's No. 11, Section 1-4-20, is drilling in shale at 720 feet after cementing 12½-inch at 350 feet. Merchants Petroleum Company's Cochran 4, Section 1-4-20, plugged from 1280 feet to 430 feet and is redrilling at 465 feet. Topa Topa Oil Company's No. 1, Section 33-5-19, cemented 6¼-inch at 2644 feet with bottom at 2875 feet.

At Simi, Henry R. Dabney's No. G-1, Section 20-2-18, is idle at 1506 feet. Williamson & Danaker's No. 1, Section 36-3-18, is drilling in shale at 820 feet.

At South Mountain, Driggs Petroleum Company's No. 1, Section 17-3-20, plugged at 4132 feet from 4270 feet, and trying to plug leaky casing.

At Sulphur Mountain, Wm. A. Kirk's No. 5, Section 21-4-22, is reaming with bottom at 1941 feet.

Ten Completions Made in California

Los Angeles.—California pepped up a little the past week when 10 wells were completed, nine of which were oil wells with a total initial of 9380 barrels.

One recompletion at El Capitan in Santa Barbara County was good for 135 barrels on the pump. Union Oil Company recompleted Hellman 11 at Dominguez for 240 barrels at 4440 feet.

Following are the new completions:

Company, Well and Location	Init. Prod. Bbls.	Depth
Midway—		
Honolulu Oil Corp., No. 11	950	2930
Kettleman Hills—		
Kettleman North Dome Assn., 41-32J	2450	8637
Mountain View—		
O'Kane & Brain, Wright 1	1600	5665
Mesa—		
Fred Cole, McMillan 1	150	2133
Inglewood—		
Pacific Western Oil Co., Rubel 16	1200	2900
Dominguez—		
Mutual Oil Co., Carpenter 1	1300	4683
Shell Oil Co., Reyes 52	880	5330
Huntington Beach—		
Wilshire Oil Co. No. 9	700	4800
Long Beach—		
Myrwane Pet. Co., No. 1	150	3875
Sunset Beach—		
Superior Oil Co., Alamitos 1	*	5823

*Failures; †Junked; ¶Million cu. ft. gas.

Only Three New Tests Start in California

Los Angeles.—Only three notices to drill new wells in California were filed last week, two of which were for Long Beach. New wells so far this year total 118 against 66 same date last year.

At Long Beach, Utah Oil & Drilling Company will drill Seegar 1 and Mines Oil Company will drill its No. 1.

Frontier Oil Company gave notice of drilling Kyle Unit Plan 1 in Section 12-2-12, Los Angeles County.

Miscellaneous

In Fresno County, Bergman Oil Company's Oro Loma 1, Section 12-12-11, is drilling in sandy shale at 5285 feet showing oil and gas.

In Monterey County, Jas. M. Douglas' No. 1, Section 36-22-9, is drilling in brown shale at 2690 feet.

In Sutter County, near Marysville, Buttes Oilfields No. 2, Section 35-16-1, continues idle at 4260 feet.

In Yolo County, Pacific Northern Gas & Oil Company's No. 1, Section 23-12-3, is suspended at 6690 feet.

Southern California

Wildcats in the Athens district, Atwood district, Brea Canyon, near San Fernando, near Los Nietos, and near Torrance, are still idle.

In Carbon Canyon, Tehama Petroleum Corporation's Kramer 1, Section 33-2-8, is preparing to test after cementing 19¾-inch at 1100 feet with bottom at 1297 feet.

At Hermosa Beach, Corniel Oil Corporation's No. 1, Section 31-3-14, was redrilled to 3880 feet and is bailing oil and mud. Oklahoma Oil & Gas Corporation's No. 1, is building rig.

Near Huntington Beach, on the tidelands, Black Eagle Oil Company's No. 1-B, Permit 194, has recovered 1400 feet of the 3000 feet of stuck drill pipe and will redrill, old bottom 3984 feet.

At Newport, Pioneer Drilling Com-

pany's Banning 2, Section 29-6-10, is drilling in shale at 6430 feet.

At North Long Beach, Geo. F. Clayton's Cooperative 1, Section 31-3-12, is drilling in shale at 5675 feet.

Near Pico, Frontier Oil Company's No. 1, Section 12-2-12, is preparing to spud.

Near Placentia, Placentia Development Company's Verde 1, Section 35-3-9, plugged from 4520 feet to 2500 feet and will redrill.

Near Saugus, International Oil Development Company's Powell 1, Section 34-5-16, is rigging up rotary.

At West Whittier, Midfield Oil Company's Walker 1, Section 19-2-11, is drilling in shale at 2560 feet.

In San Bernardino County, Great American Petroleum Company's Gapco A-1, Section 18-2-8, is reaming with bottom at 2725 feet. Gapco B-1 is drilling in shale at 2700 feet.

New Mexico Gasser Has Good Gasoline Content

Santa Fe, N. M.—A 1,500,000 cubic foot wet gas well was completed this week in Fred Barret's Hart 1, SW NW SW Section 11-29n-12w, in the Fulcher Basin district, about four miles west of shallow production in the Aztec area, San Juan County. Gas tested two gallons of gasoline per 1000 cubic feet. Operators are completing the installation of a gasoline compression plant at Fulcher Basin.

Stovall & Marshall are spudding in McIlvain, CSE NE Section 5-25s-27e, in southern Eddy County. The test is two miles south of its Mock 1, SE SE Section 29-4s-27e, which showed for about 25 barrels from 2338 feet after being shot with 25 quarts. The test later made water and has been shut down.

In the same county, Guess-McIntosh's State 1, NW NW Section 8-26s-28e, Delaware district, is spudding. The Josey-Warn group has made location for two wildcats in the Pecos Valley district, central Eddy County as follows: State 1, CNW NW Section 28-19s-23e, and Government 1, CSW SW Section 19-20s-23e.

The Texas Company's test, drilling in the semi-wildcat territory northeast of the Lea pool, Lea County, Lynch 2-B, SE SW Section 27-20-34, is drilling at 3688 feet. The test had a show of oil at 3650 feet.

Cabra Springs Oil & Gas Company's 2, NE NE Section 22-13n-22e, Cabra Springs district, San Miguel County, is drilling and carrying 8¼-inch casing at 2750 feet.

In Santa Fe County, Fisher & Wolcott's Hill 1, southwest corner of Section 6-10n-5e, on the Barton dome wildcat structure, is drilling at 1617 feet.

Walker Dome Test Plugged Back to Make Gas Well

Casper, Wyo.—A small gas well was completed this week on the Walker Dome structure in Hot Springs County when Ohio Oil Company plugged back from 4403 feet to 3147 feet in the Frontier to save Smith 1, SE NE Section 8-46n-99w, as a gasser. The test gauged 1,000,000 cubic feet of gas, open flow, daily. String of 10¾-inch casing is set at 3100 feet. The well, which was started in 1930, was shut down two years ago, and resumed operations 10 days ago. Walker Dome is 10 miles east of the Grass Creek field.

Morrell 1, NW NE SE Section 2-39n-61w, deep test west of shallow production in the West Mule Creek field, Niobrara County, is drilling at a total depth of 2650 feet. The test, a joint operation of the Interstate Oil & Refining Company and Fall River Royalty & Producers Company, passed through a tight sand between 2565-85 feet where it had a small showing of oil. Sand is unidentified. Objective of the test is the Minnelusa formation, expected at any time now.

Earl W. Reader, Inc.'s Union Pacific 1, CSW SW Section 19-20n-83w, on the Overland Dome structure, Carbon County, is drilling below 4412 feet, having made little headway in the past week. Light drilling equipment is being used and has considerably slowed down progress.

Mountain Completions Run Largely to Gas Wells

Casper, Wyo.—Mountain States completions totaled five during the week ended April 10, with three of the wells, two of which were wildcats, completed for gas. Completions follow:

Montana

Company, Well and Location	Init. Prod. Bbls.	Depth
Glacier County—		
R. C. Tarrant, Britton 2, sw ne 14-34n-6w	25	2915
Petroleum County—		
Winnett-Pacific Oil Co., Flatwillow 1, ne ne ne 23-14n-28e	*	2268

Wyoming

Carbon County—		
Ohio Oil Co., A. J. Hazlett 1, ne nw 34-28n-79w	¶32	2300
Hot Springs County—		
Ohio Oil Co., Smith 1, se ne 8-46n-99w	¶1	3147

New Mexico

Fred Barrett, Hart 1, sw nw sw 11-29s-11e	¶1½	1750

*Failures; †Junked; ¶Million cu. ft. gas.

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Decide at what pressure you want valve to relieve. See table on valve name plate for size nail which shears at this pressure. Check nail against nail gauge on name plate for extra safety. Then insert nail . . . it all takes one minute's time.

If pressure against piston reaches set pressure, nail shears, piston instantly bumps rubber cushion ring in valve bonnet, entirely out of the way of released fluid, preventing any cutting out or wear. And there can be no leak when valve is closed. To re-set valve, simply insert new nail.

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Eastern Colorado Attracting Mid-Continent Operators

Denver, Colo.—With more favorable weather conditions, wildcat operations in Colorado are showing greater activity. Southeastern and eastern part of the state has been having an extensive leasing campaign by major interests, the most active of the companies having headquarters in the Mid-Continent as geological conditions in eastern Colorado are said to be like they are in the Mid-Continent rather than in the Rocky Mountain region.

Other sections of the state are also showing signs of more activity. W. A. Myers and associates of Denver are reported to be getting ready to drill a test on a structure just outside of the corporation limits of Denver to the northeast of the city. The Texas Company is making a geological survey of the King Mountain district in Routt County to determine a drilling site on a block of 6000 acres. In Grand County, contracts have been signed between the Colorado Oil Refining Company and holders of leases and permits whereby a test is to be started within a few weeks on the Granby anticline between the towns of Granby and Hot Sulphur Springs on the Denver & Salt Lake railroad. The discovery of the structure was made by Dr. T. S. Lovering of the U. S. Geological Survey in 1928 and is described in Survey Bulletin 822-B. The anticline has been described as a narrow fold with a northerly trend and has been traced for 15 miles.

In Archuleta County, Oil City Petroleum Company has resumed drilling in Price 1, Lot 3, SW Section 25-33n-2e. Test was spudded last fall and shut down for the winter after setting 15½-inch casing at 79 feet.

Depth progress is shown in most of the other wildcat tests in the state in the week ended April 10.

In Jackson County, Colorado Oil Refining Company is shut down waiting for material after drilling to 725 feet. In Grand County, Interstate Oil & Refining Company's Hinman 1, NE SE NW Section 11-2n-81w, Dirt Creek district, is drilling at 1825 feet and carrying 8¼-inch casing.

In Larimer County, two tests are drilling. Colorado Producers, Inc., is shut down waiting for 4 3/16-inch casing at 3200 feet in Foster-Metz Reservoir 1, SW SE SE Section 17-4n-69w. In the Loveland district, Eastman & Deininger failed to find the Muddy sand oil bearing in Ideal Cement 1, NE SE NW Section 30-5n-69w, and are going on down to the next sand, the Muddy having been topped at 416 feet. Hole is now bottomed around 500 feet.

In Montezuma County there are three tests drilling. Ed Wiley et al are shut down at 560 feet in NW NE NE Section 4-35n-14w. McElmo Oil Company is waiting for 6¼-inch casing in West 1, NE NW NE Section 31-36n-17w, with the hole bottomed at 1751 feet. Trojan Oil & Gas Company has resumed drilling in Lotus 1, NW NE NE Section 15-23s-46w, after standing over the winter at 2570 feet.

In Park County, South Park Oil Company is shut down at 3228 feet in Milligan 1, SE Section 14-7s-76w, the ground having been covered with five feet of snow.

In Routt County, Mid-Colorado Petroleum Corporation has resumed drilling in Omholt 1, SE Section 29-4n-87w, Fish Creek district, after standing over winter and is now at 2600 feet with the Sundance formation as the objective. This test developed a flow of 3,000,000 cubic feet of gas in the Frontier sands. If the lower sands do not contain oil in commercial quantities, the well will be saved for gas and same piped to the nearby towns of Steamboat Springs and Walden.

Petroleum County Test Fails in Second Cat Creek

Great Falls, Mont.—Winnett-Pacific Oil Company is plugging and abandoning its test in the NE NE NE Section 23-14n-28e, in the Flatwillow district, Petroleum County. Test drilled to a total depth of 2268 feet and through the Second Cat Creek sand which was dry.

Guy Smith et al's 1-A, SE SE Section 3-13n-26e, Flatwillow Dome, is drilling at 1360 feet. Test had a show of oil at 1358 feet.

On the Strode Dome structure, five miles southeast of the Whitlash oil field, Liberty County, Harold Hayes and others' Strode 1, SE NW Section 3-36n-4e, is drilling at 1675 feet and is close to objective, the Madison lime. Test developed 1,000,000 cubic foot flow of gas along with a show of oil in the basal Colorado at 1550 feet.

Joint test of Enterprise Oil Company and Embar Drilling Company, Lynde 2, SW NW SE Section 21-6s-35e, on the Lodge Grass structure, Big Horn County, is lowering 4¾-inch string to make water shut-off preparatory to testing a show of oil below 3475 feet in the top of the Lakota sand. Total depth is 3480 feet.

At a total depth of 2690 feet and near its objective, the Devonian series, H. Rowland Clark and associates' Woodward 1, SE SE SW Section 20-14n-24e, wildcat on the Button Butte Dome structure, Fergus County, is running 6¼-inch casing to 2685 feet.

The East Bridger Oil & Gas Company's test in SW SE Section 34-8n-4e, is drilling at 400 feet. Test is on the Coal Creek structure, south of Great Falls. It was spudded in a month ago.

Northwest Utilities Company (subsidiary of Minnesota-Northern Power Company) which has large holdings in the Baker-Glendive gas field, is preparing to install heavier equipment in State 1, CSL NE SE Section 9-32n-17e, on the Box Elder structure, Hill County. Test is at a total depth of 590 feet.

Benrstad, N. D.—D. J. Carter & Company's test in the southwest corner of Section 26-33n-72w, a few miles south of here in Logan County, is drilling at 400 feet. It is the only test drilling in North Dakota.

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GRIZZLY
DRILL PIPE PROTECTORS

Texas Operators Secure Permits to Drill 217 Tests

(*Continued from page* 157)

In Carson County the following permits were granted: Skelly Oil Company, Tulsa, Okla., H. Schafer (West) 29 (640-ac), H&GN Survey 87, Block 4, 2200 feet from south and east lines of lease. Stanolind Oil & Gas Company, Ft. Worth, L. C. McConnell 2, I&GN Survey 187, Block 3, 330 feet from north and 990 feet from east line of SW¼ of section.

In Chambers County the following permit was granted: Sinclair Prairie Oil Company, Tulsa, Okla., J. Wilburn 17-A (52-ac), W. Hodge and H. Griffith Survey, SW of No. 13.

In Cherokee County the following permits were granted: W. L. Stearns, Tyler, W. L. Stearns 1 (89-ac), S. A. Maverick Survey, 150 feet from south and east lines of lease. T. J. Wood, Houston, New Birmingham Development Company 1 (160-ac), L. Jordan Survey, 660 feet from south and east lines of lease.

In Coleman County the following permit was granted: Eppenauer Drilling Company, San Angelo, Shields Estate 1 (434-ac), G.H.&H. RR. Survey 3, 400 feet from south and 1855 feet from east line of lease.

In Duval County the following permits were granted: Shasta Oil Company, San Antonio, J. R. Foster 3 (50-ac), Survey No. 206, 150 feet from north and west lines of lease. Magnolia Petroleum Company, Dallas, G. Wendt 14 (120-ac), J. Poitevent Survey 44, 420 feet south of No. 5. S. R. C. Oil Corporation, San Antonio, J. R. Foster 1 (100-ac), J. Poitevent Survey 206, 330 feet from north and east lines of lease. Southwest Drilling Company, San Antonio, C. W. Hahl 1 (160-ac), Survey No. 56, SW¼, 330 feet from south and east lines of lease. O. W. Killam, Laredo, Wood Welder 4 (2000-ac), Survey No. 102, northwest corner of lease. E. B. Cox and J. L. Hamon, Ardmore, Okla., State 7 (127-ac), J. Poitevent Survey 60, 660 feet south of No. 6.

In Frio County the following permit was granted: Humble Oil & Refining Company, Houston, C. B. Woodward 2 (830-ac), E. Poor Survey, 14,533 feet from NE and 1097 feet from SE line of lease.

In Gray County the following permits were granted: Phillips Petroleum Company, Bartlesville, Okla., J. Foxx 6 (80-ac), I&GN Survey 36, Block 3, 330 feet from east and 990 feet from north line of section. Humble Oil & Refining Company, Houston, W. Jackson 5 (96-ac), H&GN Survey 90, Block B-2, 330 feet from west and 1350 feet from north line of lease. Indian Territory Illuminating Oil Company, Bartlesville, Okla., A. Smith 3 (160-ac), I&GN Survey 139, Block 3, 2318 feet from east and 2301 feet from south line of SE¼ of lease. Magnolia Petroleum Company, Dallas, W. C. Heaston 2 (80-ac), I&GN Survey 164, Block 3, 330 feet from north and 1320 feet from east line of lease. The Texas Company, Wichita Falls, Furneaux Tr. Est. 1 (600-ac), H&GN Survey 99, Block B-2, 1981 feet from north and 1984 feet from west line of lease. Skelly Oil Company, Tulsa, Okla., L. H. Webb "A" 7 (320-ac), H&GN Survey 61, Block 25, 330 feet from east and 990 feet from south line of lease; J. F. Vicars 11 (240-ac), I&GN Survey 127, Block 3, 457 feet from north and 330 feet from east line of SW¼ of lease. Dixon Creek Oil & Refining Company and E. B. Hopkins, Pampa, E. G. Barrett 1 (13-ac), I&GN Survey 127, Block 3, 330 feet from south and east line of lease.

In Gregg County the following per-

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Exhibit Nos. 419-421, Aisle 4

We will exhibit the actual equipment which was used on the wild Conroe crater well.

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mits were granted: A. D. Beals, Longview, Mayfield Grocery Company 1 (7-ac), I. C. Skillern Survey, 330 feet from north and midway between east and west lines of lease. Miller-Lacy Oil Company, Longview, W. R. Nicholson 3 (20-ac), M. Mann Survey, 902 feet from south and 150 feet from east line of lease. Sun Oil Company, Dallas, J. T. Loden 10 (100-ac), D. Sanchez Survey, 660 feet east of Salome Cooper Drilling Company No. 4-A Collins; E. C. Shoults 8 (100-ac), D. Ferguson Survey, 640 feet NE of No. 1; J. S. Elder 7 (75-ac), J. Wilkinson Survey, direct east equi-distant offset to Gulf's No. 4 Elder. Deep Rock Oil Corporation, Tulsa, Oklahoma, B. Jones 8 (61-acres), G. W. Hooper Survey, 330 feet from south and 820 feet from west line of lease. Barnsdall Oil Company, Gladewater, J. G. McGrede 16 (109-acres), D. Sanchez Survey, 508 feet east of Amada No. 3 A. J. Green. Empire Gas & Fuel Company, Bartlesville, Okla., T. W. Lee 19 (187-ac), F. W. Johnson Survey, 230 feet from south and 140 feet from east line of lease. Empire Gas & Fuel Company, Gladewater, V. L. Taylor 7 (40-ac), M. Tenison Survey, direct west equi-distant offset to Continental No. 4 King; J. T. Jeter 9 (123-ac), D. B. Choate Survey, direct SW equi-distant offset to Brown Eagle No. 2 I&GN RR.; No. 10, direct south equi-distant offset to Swain & Holcomb No. 1 Turner; E. Muckelroy 6 (36-ac), J. Caruthers Survey, direct west equi-distant offset to Everts Drilling Company No. 1 Muckelroy; No. 7, direct NW equi-distant offset to Gulf Production Company No. 9 Watson. Amended location: C. J. Webster Oil & Gas Company, San Antonio, M. Register 2 (20-ac), G. F. Penn Survey, 330 feet from east and 110 feet from south line of lease. Atlantic Oil Producing Company, Dallas, M. B. Hughey "B" 3 (20-ac), L. B. Outlaw Survey, 660 feet east of A. O. P.-Byrd-Frost No. 9 Hughey. Amended location: A. Tooke 5-A (40-ac), Wakeland Survey, 30 feet from south and 514 feet from east line of lease. Selby Oil & Gas Company and Lewis Production Company, Tulsa, Okla., Snavely Heirs "A" 8-A (214-ac), W. Tynedale Survey, direct east equi-distant offset to Cline & Collins No. 2 Sabine River Tr. 2. E. M. Jones, San Antonio, L. D. Crim 1 (10-ac), M. Van Winkle Survey, 200 feet from east and 330 feet from south line of lease. Smith County Oil & Gas Company, Longview, G. Boyd et al 2 (1-ac), H. R. Hokit Survey, 65 feet from north and 75 feet from west line of lease. Bond & Johnson, Longview, J. R. Fenton 5 (20-ac), D. Sanchez Survey, 140 feet from west and 150 feet from south line of lease. Gulf Production Company, Houston, S. C. Fishburn 18, (200-ac), S. C. Fishburn Survey, 545 feet from west and 485 feet from south line of lease; M. T. Cole 14 (161-ac), J. Meador Survey, 660 feet west of No. 10; M. Charles et al 9 (88-ac), W. P. Chism Survey, 480 feet from west and 664 feet from SW corner of lease; W. Clayton et al 7 (50-ac), L. B. Outlaw Survey, 330 feet from south and west lines of lease; A. Spear Tr. 2 29 (96-ac), M. Van Winkle Survey, 129 feet from north and 671 feet from west line of lease; S. Hilburn Estate "E" 55, (269-acres), L. B. Outlaw Survey, 608 feet southwest of No. 3; No. 56, 398 feet SW of No. 61; R. H. Still 12 (188-ac), J. Wilkinson Survey, 594 feet NE of No. 4; No. 13, midway between No. 5 and No. 8. Tide Water Oil Company, Houston, Mrs. C. Fisher 7 (50-ac), J. Ruddle Survey, 215 feet west of No. 5; M. G. Barton 21 (194-ac), S. P. Hollingsworth Survey, 150 feet from south and 1174 feet from east line of lease. Pelican Natural Gas Company, Inc., Shreveport, La., Spear-Laird 8 (92-ac), A. Norris Survey, direct east equi-distant offset to Sinclair Prairie No. 17 Lockhart. Simms Oil Company, Longview, A. J. Tuttle 9 (95-ac), W. Castleberry Survey, 617 feet NE of No. 5. Byrd-Frost, Inc., Dallas, J. B. Watson 3 (9-ac), J. S. Caruthers Survey, 50 feet from south and 200 feet from east line of lease. Prince Brothers Drilling Company, Gladewater, H. M. Williams 8 (37-ac), H. H. Edwards Survey, 275 feet north of No. 1. Magnolia Petroleum Company, Dallas, H. L. Foster 13 (100-ac), W. C. Wakeland & W. G. Painter Survey, 130 feet from east and 321 feet from south line of lease; H. B. Zeigler 13 (120-ac), P. McAnnally Survey, midway between No. 3 and No. 4. Navarro Oil Company, Houston, T. B. Harris 7 (80-ac), W. H. Castleberry Survey, 660 feet south of No. 6. General Crude Oil Company, Houston, S. Scott 9 (37-ac), D. Dainwood Survey, 220 feet east of Island Oil Company No. 5 Register; J. M. Blackman 6 (36-ac), W. P. Chism Survey, 200 feet from south and 505 feet from east line of lease. J. Z. Werby, Longview, J. S. King 3 (11-ac), W. P. Chism Survey, 580 feet north of Weaver-Crim No. 4 Laird. Rowan & Nichols Oil Company, Ft. Worth, B. C. Todd "A" 6-A (28-ac), W. H. Castleberry Survey, 150 feet from south and 774 feet from west

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line of lease; No. 5-A, 150 feet from south and 570 feet from east line of lease. T. D. Humphrey, Tyler, Mrs. L. M. Baker 1 (40-ac), J. Price Survey, 150 feet from west and 293 feet from north line of lease. Stanolind & Simms, Ft. Worth, J. C. Persons 16 (146-ac), W. H. Castleberry Survey, 147 feet from north and 721 feet from east line of lease. B. F. Phillips, Gladewater, Phillips-League "B" 4 (24-ac), Rogers Survey, midway between No. 1 and No. 2. H. L. Johnson, Dallas, G. E. Hineman 3 (2-ac), G. W. Hooper Survey, 150 feet from north and midway between east and west lines of lease. Lucey Petroleum Company, Longview, McBee-Fisher 7 (65-ac), Castleberry Survey, midway between No. 1 and No. 2. Yount-Lee Oil Company, Beaumont, W. I. Denson B-5 (21-ac), D. Sanchez Survey, 285 feet SE of No. B-2. Humble Oil & Refining Company, Houston, J. H. Sheppard "B" B-3 (8-ac), T. Allen Survey, 126 feet from NE and 261 feet from NW corner of lease.

In Hardin County the following permit was granted: Ernest Pope, Saratoga, Gulf-Patterson Fee 7 (4-ac), C. F. S. Jordit Surve , 150 feet from east and 200 feet from north line of lease.

In Harris County the following permits were granted: Humble Oil & Refining Company, Houston, H. Theak 1 (135-ac), W. Hurd Survey, 2700 feet from south and 200 feet from east line of lease. J. M. Crosby, Tr., Houston, Floyd Oil Company 1 (11-ac), J. Strange Survey, Block 2, 120 feet from south and east lines.

In Jack County the following permits were granted: Texas Plains Oil Company, Wichita Falls, W. H. Terrell "B" 2 (387-ac), M. Rockerfellow Survey, 1200 feet from west and 1500 feet from south line of lease. Dr. D. M. Rumph, Ft. Worth, Dr. D. M. Rumph 1 (20-ac), J. W. Williams Survey, 450 feet from east and 200 feet from south line of lease. G. A. Eriksen, Jermyn, D. M. Spearman 1 (200-ac), TE&L Survey, Block 2771, 750 feet from south and 970 feet from east line of lease.

In Knox County the following permit was granted: C. C. Christie, Olney, W. L. Moore 1 (100-ac), H&TC RR. Survey, 330 feet from south and west lines of east 100-ac of north 200-ac.

In Liberty County the following permits were granted: Gulf Production Company, Houston, Phoenix Development Company 99 (300-ac), J. Devore Lg. Survey, 1550 feet from west and 100 feet from south line of lease, General Crude Oil Company, Houston, T. E. Davis 8 (806-ac), D. Kokernut Survey, 660 feet from south and 1000 feet from east line of lease. Houston Production Company, Houston, Orgain 7 (22-ac), J. Devore Survey, 330 feet from north and 157 feet from east line of lease.

In Montgomery County the following permits were granted: Humble Oil & Refining Company, Houston, B. D. Griffin 6 (90-ac), W. Strickland Survey, 183 feet from west and 490 feet from south line of lease. Amended location: Houston Oil Company of Texas, Houston, G. Hamman 10 (232-ac), C. B. Stewart Survey, 467 feet from north and west lines of lease.

In Nacogdoches County the following permit was granted: Elm Oil Company, Tulsa, Okla., J. L. Ayers 1 (156-ac), J. Weeks Survey, 500 feet from south and 800 feet from east line of lease.

In Panola County the following permits were granted: T. C. Adams & George Despot, Bethany, La., T. C. Adams 10 (96-ac), B. C. Jordan Survey, 1000 feet south of No. 9; No. 9, T. Cox Survey, 300 feet from north and west lines of lease.

In Polk County the following per-

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mits were granted: Smith & McDannald, Houston, W. B. Munson Heirs 2 (31ac), M. C. Swinney Survey, 330 feet from south and 575 feet from east line of lease; R. H. Jones et al 1 (84-ac), A. Viesca 7 Lg. Survey, 380 feet from north and 500 feet from east line of lease.

In Refugio County the following permits were granted: C. B. Bunte, Inc., San Antonio, F. B. Rooke 2 (131-ac), A. de la Vina Survey, Block 8, 3746 feet from NW and 330 feet from NE line of lease. Amended location: The Texas Company, Houston, J. F. Welder 1, J. T. McGrew Survey, 466 feet from south line; 2700 feet from NW corner of Trinity & Continental 200 ac. tr.

In Rusk County the following permits were granted: Yandell Rogers, Tyler, R. Neal Fee 1 (31-ac), T. H. Smith Survey, 330 feet from south and west lines of lease. Cockburn & Boase, Arp, I. Green 2 (11-ac), F. Cordova Survey, 323 feet east of No. 1. Gant, Garvin & Wegener, Ardmore, Okla., L. E. & C. Edwards 2 (50-ac), Pena Survey, 330 feet from north and west lines of lease. Gulf Production Company, Houston, T. B. Cason 9 (127-ac), S. P. Hollingsworth Survey, 413 feet from east and 392 feet from south line of lease; G. G. Turner 29 (312-ac), F. Cordova Survey, 38 feet from NE and 208 feet from east line of lease. Tide Water Oil Company, Houston, J. W. Flanagan 6 (40-ac), M. J. Pru Survey, 828 feet from west and 457 feet from south line of lease; F. L. Buntyn "A" 9-A (43-ac), W. W. Simms & J. C. Snow Survey, 165 feet west of No. 3-A. Sabine Syndicate No. 1, Longview, G. Thompson 6 (20-ac), R. E. Winn Survey, 218 feet from east and 633 feet from south line of lease. Magnolia Petroleum Company, Dallas, N. Bean 7 (100-ac), Lewis Survey, 365 feet NW of No. 6; No. 8, midway between No. 2 and No. 4; J. C. Bradbury 8 (90-ac), R. W. Smith Survey, 368 feet north of Curtis No. 2 Bradbury. McClanahan & Venable Oil Company, Tyler, J. A. Birdwell 22 (150-ac), M. J. Pru Survey, 72 feet south of No. 11. Blackstock Oil & Gas Company, Tulsa, Okla., Brightwell 4 (10-ac), R. Winn Survey, 352 feet east of Upchurch & Company No. 4 Brightwell. Hunt Production Company, Tyler, R. W. Fair "D" 5 (55-ac), D. Collins Survey, 510 feet NW of No. 1; J. Lee "B" 3 (19-ac), J. Lee Survey, 485 feet NW of No. 1-B. Octo Oil Corporation, Henderson, W. H. Stroud 1 (38-ac), J. Ximines Survey, 300 feet from west and 150 feet from north line of lease. H. N. Bettison, San Antonio, I. R. Thrash 2 (12-ac), W. Bears Survey, 251 feet from north and 335 feet from east line of lease. E. C. Reeves, Overton, W. H. Frederick Estate 1 (5-ac), J. Ximines Survey, 150 feet from north and midway between east and west lines of lease. The Texas Company, Shreveport, La., W. W. Henry 16 (229-ac), W. J. Roane Survey, 323 feet from NW and 385 feet from north line of lease. R .B. Bryant, Dallas, R. Redwine 1 (5-ac), J Ximines Survey, 150 feet from south and west lines of lease Empire Gas & Fuel Company, Bartlesville, Okla, H P Leverett 13 (86-ac), J C Snow Survey, 620 feet from east and 795 feet from south line of lease. Stanolind Oil & Gas Company & J. E. Crosbie, Ft. Worth, J. S. Powers 8 (90-ac), J. Womack Survey, 660 feet south of Devonian No. 25 Motley.

In Shackelford County the following permits were granted: A. H. Richardson, Houston, J. B. Matthews 12 (640-ac), E. T. RR. Survey 31, 47 feet from west and 268 feet from north line of SE¼ of lease. Roeser & Pendleton, Inc., & Continental Oil Company, Ft.

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Worth, W. I. Cook Estate A-49, E. T. RR. Survey 61, 425 feet north of No. 45. Capitan Oil Corporation, Ardmore, Okla., E. A. Jeter 8 (80-ac), T&P Survey 15, Block 11, 150 feet from west and 450 feet from north line of lease. J. P. Harris, Albany, J. B. Matthews 2 (40-ac), E. T. RR. Survey 57, 150 feet from south and east lines of lease. George Callihan et al, Albany, E. A. Jeter 8 (80-ac), T. & P. Survey 14, Block 11, 150 feet from north and east lines of lease. D. O. Pratt, Mineral Wells, J. P. Clarke et al 11 (40-ac), B. A. L. Survey 1, 408 feet from east and 750 feet from south line of SE¼ of NE¼ of section. Miss L. D. Hill, Albany, L. H. Hill Est 3, (160-ac) B. A. L. Survey 17, 1020 feet from west and 300 feet from south line of S½ of NW¼ of section; No. 2, B. A. L. Survey 18, 500 feet from west and 300 feet from south line of SW¼ of lease. Amended location: L. H. Hill Estate 1 (160-ac), B. A. L. Survey 17, 500 feet from south and 600 feet from east line of S½ of NE¼ of lease.

In Smith County the following permits were granted: Gulf Production Company, Houston, S. B. Stone et al 10 (107-ac), D. W. Campbell Survey, 215 feet from west and 162 feet from north line of lease. F. S. Markham, Tyler, S. S. Cook 5 (20-ac), J. Jordan Survey, 400 feet west of Arcadia and B. Carter Oil Company's Green 3-B. Magnolia Petroleum Company, Dallas, R. Loosier 10 (137-ac), J. Vargas Survey, 330 feet from east and 670 feet from south line of lease; No. 11, 427 feet west of No. 10; No. 12, 427 feet west of No. 11; No. 13, 388 feet northeast of No. 1; J. R. Wright 19 (166-ac), J. Vargas Survey, direct west equidistant offset to Hunt 16 W. Fair. F. W. Graves, Jacksonville, J. R. Irion 2 (10-ac), J. Vargas Survey, 330 feet from south and east lines.

In Upshur County the following permits were granted: Shano Oil Company, San Antonio, B. Doby 7 (43-ac), M. Mann Survey, 97 feet from east and 65 feet from southwest line of lease. California Petroleum Corporation of Venezuela, Shreveport, La., Mrs. I. Walker 11 (120-ac), S. Harrell Survey, midway between No. 3 and No. 5. B. F. Phillips, Gladewater, C. Brooks 3 (18-ac), Davidson Survey, midway between No. 1 and No. 2.

In Upton County the following permit was granted: Texas Pacific Coal & Oil Company, Fort Worth, J. H. Shirk "B" 3 (120-ac), M. K. & T. Survey 1, Black 3, 990 feet from south and 330 feet from east line of section.

In Van Zandt County the following permits were granted: Pure Oil Company, Fort Worth, W. F. Swain 3 (33-ac), J. Walling Survey, 200 feet

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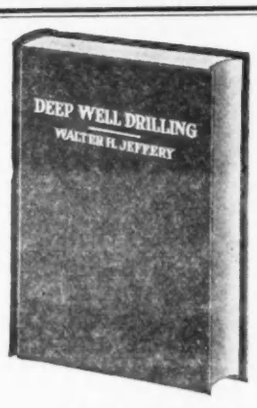

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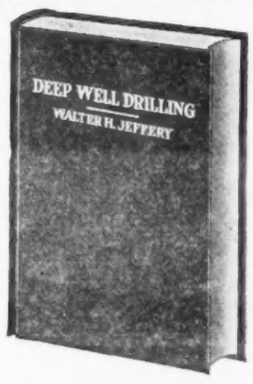
Preparatory to writing the new book, the author spent weeks in a first hand study of modern methods of drilling by the rotary system, and of completing wells, controlling high pressures and operating wells in the deep fields of California and Oklahoma.

The third edition contains 816 pages, 150 pages more than the second edition, and 452 illustrations, but the price is the same, $6.00.



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from east and 338 feet from south line of lease; Mrs. W. A. York 10 (109-ac), J. Walling Survey, 500 feet north of No. 7.

In Ward County the following permits were granted: Atlantic Oil Production Company, Dallas, W. D. Johnson 17 (320-ac), H. & T. C. Survey 9, Block 34, 660 feet southeast of No. 11. Gulf Production Company, Fort Worth, Hutchings Stk. Ass'n 28 (640-ac), (Tract D), G. & M. M. B. & A. Survey 4, Block "F" 330 feet from west and 2310 feet from south line of lease; G. W. O'Brien et al 46 (640-ac), G. & M. M. B. & A. Survey 17, Block "F" 660 feet from east and 1650 feet from south line of lease.

In Webb County the following permit was granted: Kalmor Oil & Gas Company, Laredo, J. V. Cuellar Jr. and Survey, Share 1, 330 feet from southwest and 400 feet from southeast line of lease.

In Wheeler County the following permits were granted: Elbar Corporation, Chicago, Ill., J. M. Noel 2 (320-ac), H. & G. N. Survey 54, Block 24, 330 feet from south and west lines of lease. DuMar Oil & Gas Company, Shamrock, P. Ftak 1 (160-ac) H. & G. N. Survey 99, Block 23, 1320 feet from south and east lines of SE¼. Skelly Oil Company, Tulsa, Okla., O. L. Derrick 1 (320-ac), H. & G. N. Survey 53, Block 24, 330 feet from south and east lines of lease. Mid-Continent Petroleum Corporation, Tulsa, Okla., L. Carwile 4 (160-ac), H&GN Survey 51, Block 24, 990 feet from south and east lines of NE¼; No. 5, 990 feet from north and west lines of NE¼.

In Wichita County the following permits were granted: Texas Plains Oil Company, Wichita Falls, Waggoner "A" 1 (300-ac), H. & T. C. Survey 28, Block 5, 1320 feet from south and 1470 feet from east line of lease. G. W. Cooper et al, Wichita Falls, T. J. & J. L. Waggoner "B" 1 (100-ac),BS&E et al, Wichita Falls, T. J. and J. L. Waggoner "B" 1 (100-ac), B. S. & E. Survey 11, Block 14, 300 feet north and 450 feet from west line of lease. Hunter Oil Company, Wichita Falls, J. and J. Waggoner "C" 15 (80-ac), H. George Survey, Blocks 1 and 2, 1354 feet from west and 450 feet from south line of lease. W. H. Peckham, Wichita Falls, W. T. Waggoner "A" 1 (160-ac), H. & T. C. Survey 35, Block 5, 150 feet from north and east lines of lease; No. "B" 1 (80-ac), H. T. & B. Survey 13, 150 feet from south and east lines of lease.

In Wilbarger County the following permits were granted: Golding & Cochran, Dallas, W. T. Waggoner "O" 1 (640-ac), H. & T. C. Survey 2, Block 4, 750 feet from east and 1500 feet from south line of lease. W. T. Waggoner, Jr., Fort Worth, W. T. Waggoner Estate 2 (20-ac), H. & T. C. Survey 22, Block 4, 300 feet southwest of No. 1; No. 3, 150 feet from northeast and 500 feet from southeast line of lease; No. 4, 300 feet southwest of No. 3.

In Wilson County the following permit was granted: A. P. George, San Antonio, A. P. George 1 (86-ac), Cantu Diaz Survey, 160 feet from southeast and 300 feet from southwest line of lease.

In Winkler County the following permits were granted: S. W. Richardson, Fort Worth, Richardson-Skelly-Scarborough 3 (40-ac), P. S. L. Survey 1, Block C-22, 150 feet from south and 330 feet from east line of SE¼ of SW¼; No. 4, 77, 330 feet from north and east lines of NE¼ of NW¼; No. 6, 77, 330 feet from north and west lines of NE¼ of NW¼; No. 5, C-22, 330 feet from west and 150 feet from south line of SE¼ of SW¼; Richardson-Scarborough "E" 1 (40ac), P. S. L. Survey 18, Block 74, 330 feet from south and east lines of NE¼ of NW¼; Richardson-Gulf-Scarborough 4 (40-ac), P. S. L. Survey 1, Block 77, 330 feet from south and east lines of SE¼

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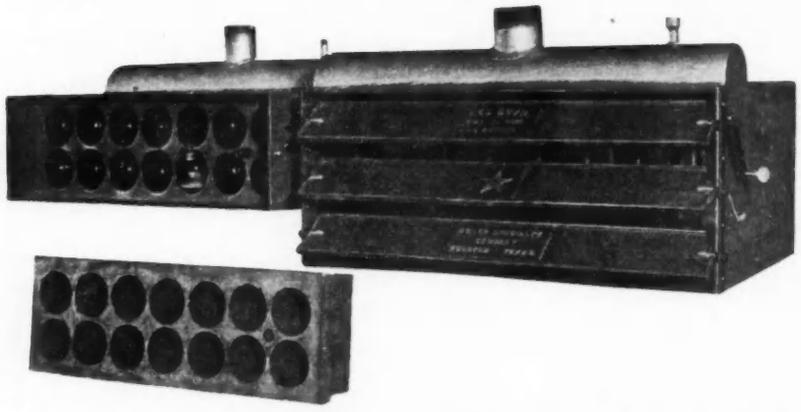

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of NW¼; No. 3, 33 0feet from south and west lines of SE¼ of NW¼.

In Young County the following permits were granted: Petroleum Producers Company, Wichita Falls, Belknap Coal Company 10 (80-ac), T. E. & L. Survey 21, 300 feet east of No. 9; No. 9, 300 feet east of No. 1. King Royalty Company, Wichita Falls, C. W. Johnson 17 (80-ac), E. W. Sargent Survey, 830 feet from south and 960 feet from east line of lease. L. A. Long et al, Graham, J. R. Garvey 6 (70-ac), T. E. & L. Survey 1856, 316 feet from south and 150 feet from west line of lease. Nash & Windfohr Oil Corporation, Graham, E. S. Graham et al 10 (160-ac), A. Hines Survey, Block 8, 550 feet southeast of No. 6. Falls Production Company, Wichita Falls, G. W. McComas 1 (160-ac), T. E. & L. Survey 444, 330 feet from south and west lines of W½ of section. E. D. Willis, Jean, E. M. Remington 1 (80-ac), Survey No. 2248, 150 feet from south and 750 feet from east line of lease; C. H. Ledbetter 1 (40-ac), Survey No. 2248, 150 feet from north and west lines of lease. Gunsight Production Company, Graham, A. E. Robinson 1-D (72-ac), T. E. & L. Survey 3403, 750 feet from south and east line of lease. Tebay & Leberman, Graham, H. L. Leberman 1 (50-ac), T. E. & L. Survey, Block 211, 500 feet from north and 900 feet from east line of lease.

In Zapata County the following permits were granted: Danvers & Harrison Oil Corporation, Laredo, F. G. Trevino 1 (500-ac), Charco Redondo Gr. Sh. "E", 150 feet from northeast and southeast lines of lease. H. B. & W. Oil Company, Laredo, J. C. Cuellar 1 (40-ac), Porcion 34, Block 3, Pappas Subdivision, 150 feet from northeast and 450 feet from southeast line of lease.

Fort Bend Test Drilling Deeper

Houston. — Phillips Oil Company's Holmes 1, located six miles southwest of Clodine, S. Strong Survey, Fort Bend County, was not abandoned at 6001 feet, as reported two weeks ago, but is drilling ahead at 6300 feet. This test drilled into water at 3852 feet, after topping the Discorbis at 3660 feet, and Heterostegina at 3710 feet. The well is running higher than expected, top of the Frio having been encountered at 4700 feet. No salt water or oil showing was logged after coring to 5200 feet. The Warren was topped at 5530 feet, and the well was shut down for a short time at 6001 feet. Contract depth was 6000 feet.

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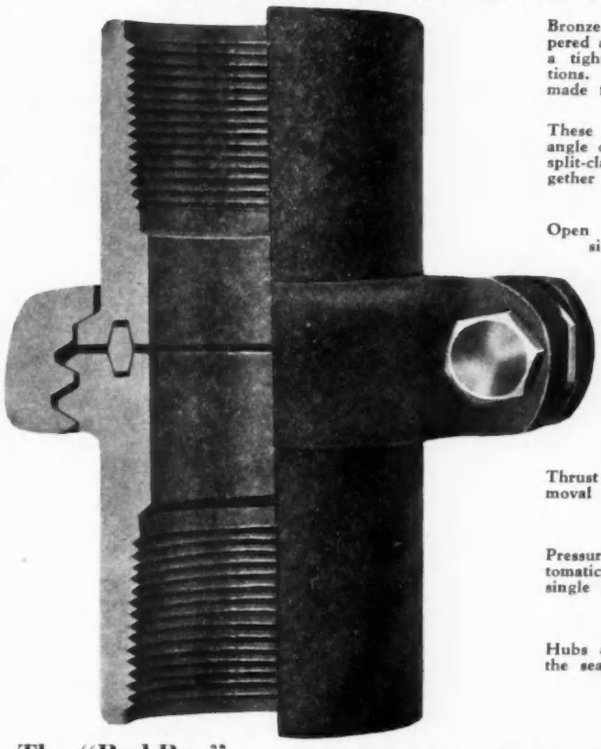

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Eastern States Area Has Good Completion Record

Cleveland, Ohio. — Completions reported in the Eastern States area last week included 49 producing wells and 13 failures for a total of 62. Despite the high percentage of success, the 28 new oil wells were rated at only 162 barrels of new production.

Details of completions follow:

Pennsylvania

Company, Well and Location	Init. Prod. Bbls.	Depth
Bradford Field—		
Niagara Oil Corp., Fee 12 wells	12	....
B. McCaffery & Co., McCaffery 1	3	....
McLean Producing Co., McKinley 1	5	....
Ryder Scott Co., Ostrander 1	5	....
C. M. & F. J. Lippert, Warters 1	5	....
L. F. Kinley & Co., Mentz 1	2	....
Devore Oil Co., Devore 1..	5	....
Smith Oil Corp., Smith 1..	3	....
Butler-Armstrong Field—		
Kelley Bros., Kelley 1.....	2	....
Rigert Bros. & Larkin, Covert 1	6	....
Greene County—		
Richill Oil & Gas Co., Gribben 1	*	....
Washington County—		
C. Ferguson & Co., Pittsburg Coal 1	*	....
Venango-Clarion County—		
Vogelbacher Bros., Vogelbacher 1	3	....
Fryburg Motor Co., Ehrhart 1	¶	....

West Virginia

Boone County—		
Pond Fork Oil & Gas, Cole & Crane 16	¶	....
Calhoun County—		
Littleton Oil & Gas Co., Wade 1	¶	....
Stracher & Richards, Welch 1	¶	....
Cain & Rothwell, Jones 3..	¶	....
Fowler & Co., Stump 1.....	3	....
Poling & Mollahan, Simons 2	*	....
Cabell County—		
Martin & Swanson, Humphrey 1	¶	....
Gilmer County—		
Hope Natural Gas Co., Reynolds 6065	¶	....
Mountain Iron Supply Co., Stump 1	10	....
C. F. Despard & Co., Amos 1	5	....
Kanawha County—		
Columbia Carbon Co., King Land Co. 2	¶	....
Pleasants County—		
Boughner & Co., Nier 2....	3	....
Ritchie County—		
Elder & Louden, Satterfield 5	100	....
Four Point Gas Co., Johnson 1	¶	....
Roana County—		
R. L. McCulty & Co., Young 1	¶	....
Frank Finley, Smith 1	*	....
Henderson Oil Co., Ball 2..	*	....
Tyler County—		
J. H. Holmes & Co., Wells 1	*	....
Wetzel County—		
Wiser Oil Co., Yoho 1.....	¶	....

Southeastern Ohio

Monroe County—		
Day Oil & Gas Co., Burkhart 3	¶	1571
I. C. Grumm & Co., Craig 2	¶	2181
Washington County—		
McTaggart & Co., A. J. Barnett 4	*	1945

Central Ohio

Belmont County—		
Bradfield & Co., Thornburg 1	*	1227
George Washmuth & Co., Stephens 2	¶	1631
Coshocton County—		
Hulse-Kundtz Inc., Dawson 3	65	3110
Fairfield County—		
City Natural Gas Works, Boyer 3	¶	2185
Lorain County—		
Wittmer Oil & Gas Co., Rathgery 1	*	....
Knox County—		
Ohio Fuel Gas Co., Perkins, Winteringer 1	*	2701
Lacknett & Co., Adams 1...	¶	900
Lawrence County—		
C. C. Wolf & Co., Pratt 1..	¶	2965
Summitt County—		
East Ohio Gas Co., Bexler 1	¶	4169
Wiser Oil Co., Doyle 2....	*	3620
Tuscarawas County—		
Ober Miller & Co., Schwartz 1	¶	4859
D. W. Hunt, Zimmerly 1....	*	1154
Vinton County—		
Cashdollar Oil Co., Vanderford 1	¶	955

Northwestern Ohio

Wyandot County—			
Kiner & Co., Brandt Heirs 7	25	1417
Jones & Coyle, Swerline 1..	*	1482

*Failures; †Junked; ¶Million cu. ft. gas.

Squeaks *from the* BULL WHEEL

A woman entered a butcher shop with her young son. Some tripe was displayed on a counter, and Tom asked what it was.

"Tripe, dear," replied the mother.

"That's funny," said Tom. "Dad says that's what we get over our radio."

Sir Walter Raleigh, with a flourish, spreads his new cloak over the mud puddle. News reel cameras click, and a man in the crowd faints.

"It's his tailor," whispers the jealous Essex to Queen Elizabeth. "Walt hasn't paid for that cloak."

Spinster: "So the waiter says to me, 'How would you like your rice?'"

Friend: "Yes, dearie, go on."

Spinster: "So I says wistfully, 'Thrown at me, big boy.'"

"I wanna come in."

"No, you can't come in."

"Why can't I?"

"'Cause mamma says boys should not see little girls in their nightgowns."

Short silence. "You may come in now, I took it off."

"If you try to kiss me, I shall scream!"

"Not with all these people about, surely?"

"Let's find a quieter spot, then!"

"Potts was a great man. At his death three towns were named after him: Pottsville, Pottstown and Chambersburg."

Wrong Man: "Where'd you get the black eye?"

"Oh, I got into an argument with a wise guy about driving in traffic."

"Why didn't you call for a traffic cop?"

"He was a traffic cop."

"What is the difference between a client and a customer?"

"A customer pays cash."

"You look lovelier to me every minute. Do you know what that is the sign of?"

"Sure, you're going to run out of gas any minute."

"Too bad that Jim and his girl aren't good enough for each other."

"What makes you say that?"

"I've been talking to both families."

"Here's one name on the committee that I never heard of."

"Oh, that's probably the person who actually does the work."

"I heard you barely escaped from the fire last night."

"That is not strictly true. I had my pajamas on."

"How does that clock go that you won at the fair?"

"Fine. It does an hour in fifty minutes."

"Begging with two hats? What's the idea?"

"Yep. Business was so brisk I had to enlarge the shop."

Doctor: "You must avoid all forms of excitement."

Male Patient: "But doctor, can't I even look at them on the street?"

Judge (in dentist chair): "Do you swear that you will pull the tooth, the whole tooth, and nothing but the tooth?"

I thought your secretary was blonde?

She was, but she's gone off the gold standard.

"Molly says she's wildly in love with her new motor car."

"Yes! Another case where man is displaced by machinery."

The hunter came panting up to one of the party.

"Just met a great big bear in the woods," he said breathlessly.

"Good!" said the other. "Did you give him both barrels?"

The hunter wiped his perspiring brow.

"Both barrels," he returned, "I gave him the whole gun!"

Mother: "Stop using such terrible language, Sally."

Sally: "Shakespeare uses it, mother."

Mother: "Then don't play with him. He's not fit company for you."

Strange, Indeed! "Mabel's young man has taken offense at something. Have you said anything to him," asked mother.

"Not a word," said Dad. "I haven't seen him since I mailed him our electric light bill for last month."

"Bothered much by hitch hikers when you're out riding?"

"Not now. Tried a new plan. As soon as I get out of town I show the sign 'taxi' on my car."

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RESTRICTED

Advertisers' Index

J. S. Abercrombie 57
Abercrombie Pump Co. 175
American Askania Corp. 168
American Association of Petroleum Geologists . .....
Alexander Anderson 174
American Iron & Machine Works..... 49
American Cable Co. .....
American Steel & Wire Co. 93
American Well & Prospecting Co. 127
Axelson Manufacturing Co. 165

Baash-Ross Tool Co. 41
Baldwin-Duckworth Chain Corp.....159
Baker Oil Tools, Inc. .....Front Cover
Baroid Sales Co. 141
The Barrett Co. 111
William M. Barret, Inc. .....
Biltmore Hotel .....
Boiler Specialty Co. 182
Bradford Motor Works .....
Brauer Machine & Supply Co. .....
The Brewster Co. 64-65
Bridgeport Machine Co. 139
Broderick & Bascom Rope Co. 89
Butler Manufacturing Co. .....
A. M. Byers Co. .....
Byron Jackson Co. 60-61

Cameron Iron Works .....Third Cover
Carbolite Sales Co. 64
Carson Machine & Supply Co. .....
Caterpillar Tractor Co. .....
Cavins Company .....
Chain Belt Co. 11
Chemical Process Corp. .....
Climax Engineering Co. 87
Continental Supply Co. .....Insert 50-51
Fred E. Cooper Co. .....
Cooper-Bessemer Corp. 37
The Corbett Corp. .....
W. H. Curtin & Co.....163

Darling Valve & Mfg. Co. 81
E. M. Dart Mfg. Co. .....
Dayton Rubber Mfg. Co. 53
Detroit Graphite Co. .....
Diamond Metal Co. 187

H. John Eastman 177
Geo. H. Echols 160
Emsco Derrick & Equipment Co. 13

Fenwick-Reddaway Mfg. Co. .....
Fluid Packed Pump Co. .....
Fort Worth Laboratories 186
Franklin Valveless Engine Co. .....
Frick-Reid Supply Corp. .....

The Garlock Packing Co. 179
Gaso Pump & Burner Mfg. Co. 3
Gearench Manufacturing Co. .....
General Electric Co. .....Second Cover
H. P. Gott Manufacturing Co. .....
B. F. Goodrich Rubber Co. .....
Gray Tool Co. .....
Gray Kerotest 6
The Guiberson Corp. .....
Gulf Publishing Co. .....
Gulf States Utilities Co.

Halliburton Oil Well Cementing Co.....
Hardway & Cathey 186
Haynes Stellite Co. 103
Hazard Wire Rope Co. .....
C. M. Heeter Sons Co.....
Hercules Motors Corp. 29
Hirsch, Susman & Westheimer.....186
Hughes Tool Co. .....Back Cover
Houston Oil Field Material Co.....164
Humble Oil & Refining Co.....
Houston Ready-Cut House Co.....180
Hyatt Roller Bearing Co..... 4

Independent Exploration Co. 186
Ingersoll-Rand Co. 129
International Cement Corp. 99
International Derrick & Equipment Co. . .....¶.....144
International Harvester Co. 77
International Nickel Co. 20

Byron Jackson Co. 60-61
Jarecki Manufacturing Co. .....
S. M. Jones Co. 178
Jones & Laughlin Steel Corp. 73

Kobe, Inc. .....

Larkin Packer Co. 145
Layne & Bowler Co. 161
Ludlow Valve Mfg. Co. .....
Lufkin Foundry & Machine Co. 123

Maloney Tank Mfg. Co. .....
Martin-Decker Corp. .....
F. G. Masquelette & Co. .....
J. H. McEvoy & Co. 172
Mengden & Sons Co. .....
Geo. S. Mepham Co. 171
Merco Nordstrom Valve Co. .....

Miller Sand Pump Co. .....
Mission Manufacturing Co. .....
Lee C. Moore & Co. 73

The National Supply Co. 55
National Tube Co. .....
Northrup Equipment Co. .....
Norvell-Wilder Supply Co. 44-45

Oil Center Tool Co. 163
Oil Equipment & Engineering Exposition 19
Oil Tool Manufacturing Co. 184
Oil Well Supply Co. .....
Oklahoma Gas & Electric Co. 132
Oklahoma Steel Castings Co. .....
Osage Metal Co. .....

The Parkersburg Rig & Reel Co. 109
Patterson-Ballagh Corp. 91
Pelican Well Tool & Supply Co.....167
Pennsylvania Hotel 186
Petroleum Iron Works 24-25
Petroleum Rectifying Co. .....
Pittsburgh Equitable Meter Co. .....
Pittsburgh Steel Co. .....
Reed Roller Bit Co. .....116 to 119
"Red Rex" Corp. 183
Republic Steel Corp. .....
The Republic Rubber Co. 33
Rice Hotel .....
Ridge Tool Co. 140

Savoy-Plaza Hotel .....
Security Engineering Co. .....
Shaffer Tool Works 63
Sinclair Refining Co. .....
SKF Industries, Inc. 97
South Chester Tube Co. 79
Southern Pacific Lines 181
E. M. Smith Co. 176
Howard Smith Co. 105
Nowery J. Smith Co. 184
Sonken-Galamba Corp. .....
Sperry-Sun Well Surveying Co.....142
State Bit Co. 131
Jesse R. Stone & Lester B. Clark 186
Stone Oil Tool Co. .....

Texas Rubber & Specialty Corp. .....
Texas Electric Service Co. .....
Texas Iron Works 15
Thermoid Rubber Co. .....
Transportation Equipment Co. 162
Tretolite Co. .....
Tulsa Camera Record Co. .....
Tulsa Winch Mfg. Co.....
Twin Disc Clutch Co. .....

United States Rubber Co. 68-69
Union Carbide & Carbon Corp.....
Union Wire Rope Co. .....

The Vellumoid Co. .....

Waukesha Motor Co. .....
Western Pneumatic Co. 173
Wickwire-Spencer Steel Co. 101
Whitney Manufacturing Co. 146
Williamsport Wire Rope Co. .....
J. H. Williams & Co. 143
Wilson Supply Co. 84-85

Youngstown Sheet and Tube Co Insert 50-51

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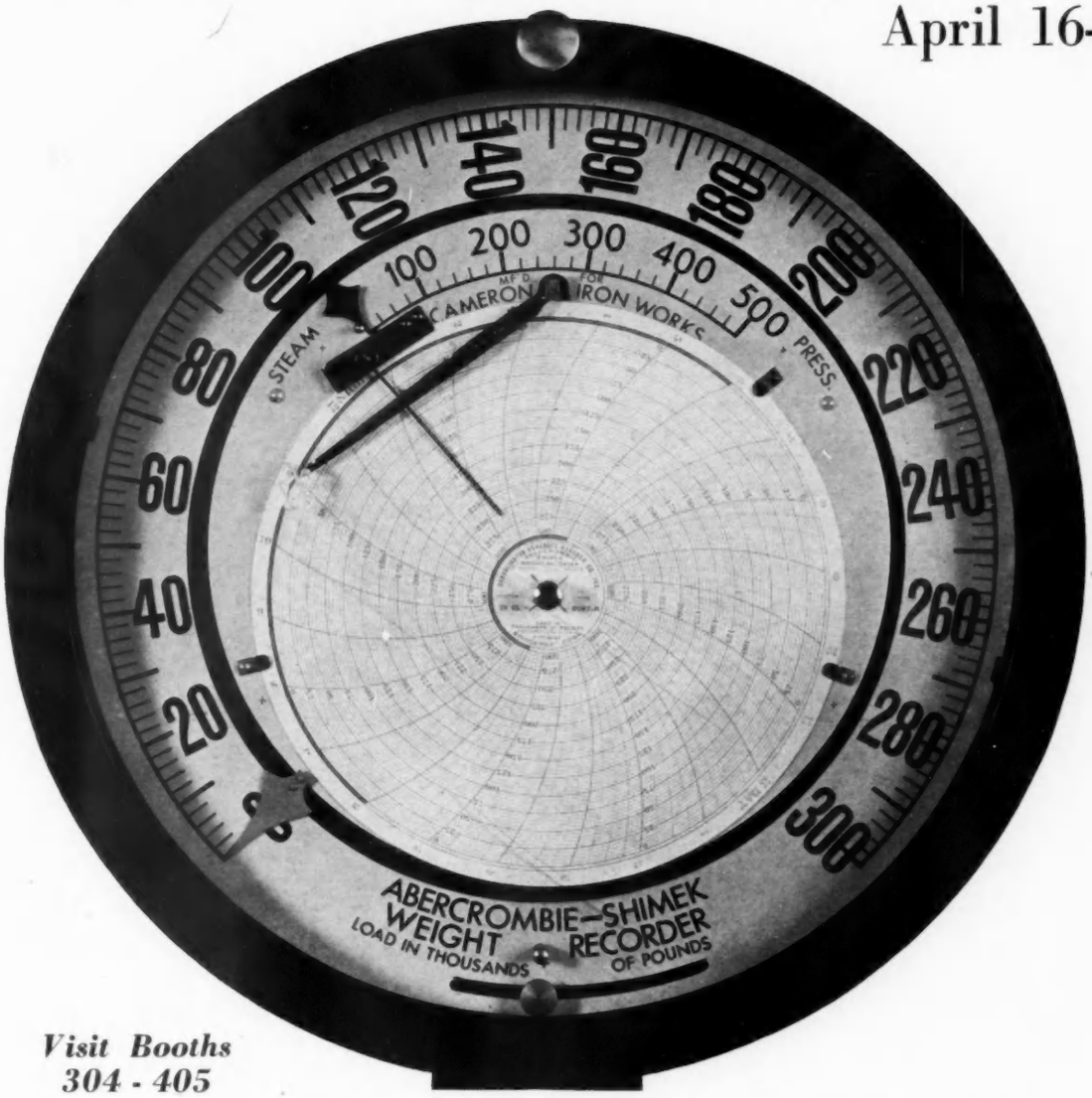

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